

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**NTP Study Number:** C20209  
**Lock Date:** 08/31/2011  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 3.0.2.3\_002  
**PWG Approval Date:** 08/06/2014

Experiment Number: 20209 - 03  
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Date Report Requested: 07/28/2016  
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First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105001

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Pituitary Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

OBSERVATIONS

* Heart	Cardiomyopathy	Minimal
* Kidney	Hydronephrosis	Minimal
* Pancreas	Atrophy	Minimal
* Preputial Gland	Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
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Lab: SRI

ANIMAL ID: 2

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105002

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Liver	Fatty Change	Minimal
Note: rare microvesicular vacuolization, in addition to the macrovesicular vacuolization		
* Preputial Gland	Inflammation	Chronic, Minimal

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 Lab: SRI

ANIMAL ID: 3

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105003

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Testes	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Brain		Compression	Mild
	[ Compression TGLs = 4-1 ]		
* Heart		Cardiomyopathy	Mild
* Kidney		Cyst	
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
	[ Cyst TGLs = 1-21 ]		
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
* Lymph Node, Mesenteric		Hemorrhage	Minimal
	[ Hemorrhage TGLs = 2-5 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Skin		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLs = 3-22 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

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**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 3

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105003

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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C Cell

Hyperplasia

Mild

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**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

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**Lab:** SRI

**ANIMAL ID:** 4

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 92

**DOSE:** 0 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105004

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex	Vacuolization Cytoplasmic	Mild
* Liver	Fatty Change	Minimal
* Prostate	Inflammation	Chronic, Minimal

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 Lab: SRI

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105005

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
	Pelvis	Mineralization	Mild
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
Note: slide 22 for basophilic focus			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 1-21 ]			
* Pituitary Gland	Pars Intermed	Hyperplasia	Focal, Mild
	Pars Nervosa	Inflammation	Chronic, Mild
Note: gliosis within pars nervosa			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal
Tissue NOS		Fibrosis	Mild
Note: adhesion between liver and diaphragm			
[ Fibrosis TGLs = 3-22 ]			

\* PROTOCOL REQUIRED TISSUE

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 Lab: SRI

ANIMAL ID: 6

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105006

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	[ Fatty Change TGLs = 4-6 ]		
* Lymph Node, Mandibular		Hemorrhage	Mild
	[ Hemorrhage TGLs = 3-8 ]		
* Nose			
	Note: acute inflammation in region of tooth		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Granulomatous, Mild
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Skin		Keratoacanthoma	
	[ Keratoacanthoma TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes		Degeneration	Mild
	[ Degeneration TGLs = 2-7 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE



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 Lab: SRI

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105007

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Cyst	Multiple
	Pars Distalis	Hyperplasia	Focal, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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Date Report Requested: 07/28/2016  
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 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 676

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105008

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Preputial Gland        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Glandular        | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

OBSERVATIONS

- |                               |               |                                  |                      |
|-------------------------------|---------------|----------------------------------|----------------------|
| * Adrenal Cortex              |               | Angiectasis                      | Minimal              |
|                               |               | Hypertrophy                      | Focal, Minimal       |
|                               |               | Vacuolization Cytoplasmic        | Minimal              |
| * Brain                       |               | Compression                      | Moderate             |
| [ Compression TGLs = 8-1 ]    |               |                                  |                      |
| * Heart                       |               | Cardiomyopathy                   | Minimal              |
| * Kidney                      | Pelvis        | Mineralization                   | Minimal              |
|                               |               | Nephropathy                      | Minimal              |
| * Liver                       |               | Fatty Change                     | Marked               |
| [ Fatty Change TGLs = 1-6 ]   |               |                                  |                      |
| * Lymph Node, Mandibular      |               | Hemorrhage                       | Minimal              |
|                               |               | Pigmentation                     | Hemosiderin, Minimal |
| [ Hemorrhage TGLs = 2-8 ]     |               |                                  |                      |
| [ Pigmentation TGLs = 2-8 ]   |               |                                  |                      |
| * Mammary Gland               |               | Pigmentation                     | Hemosiderin, Minimal |
| * Pituitary Gland             | Pars Distalis | Adenoma                          |                      |
| [ Adenoma TGLs = 9-1 ]        |               |                                  |                      |
| * Prostate                    |               | Inflammation                     | Chronic Active, Mild |
| [ Inflammation TGLs = 4-7-1 ] |               |                                  |                      |
| * Salivary Glands             | Parotid GI    | Vacuolization Cytoplasmic        | Minimal              |
| * Spleen                      |               | Fibrosis                         | Focal, Mild          |
|                               |               | Hematopoietic Cell Proliferation | Mild                 |

\* PROTOCOL REQUIRED TISSUE

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Lab: SRI

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 676

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105008

ORGAN AND ACCOUNTABLE SITE STATUS

Pigmentation Minimal

Note: may correspond to stromal hyperplasia

[ Fibrosis TGLs = 5-21 ]

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Minimal

Hyperplasia

Mild

Inflammation

Chronic Active, Minimal

[ Hyperkeratosis TGLs = 10-4-1 ]

[ Hyperplasia TGLs = 10-4-1 ]

[ Inflammation TGLs = 10-4-1 ]

\* Testes

Degeneration

Mild

Note: edema in interstitium

[ Degeneration TGLs = 3-7 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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 Lab: SRI

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105009

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Inflammation	Chronic Active, Minimal
	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung	Alveolar Epith	Hyperplasia	Moderate
		Infiltration Cellular	Histiocyte, Minimal
	[ Hyperplasia TGLs = 4-2 ]		
	[ Infiltration Cellular TGLs = 2-22, 3-23, 4-24 ]		
Mesentery	Fat	Necrosis	Minimal
	[ Necrosis TGLs = 1-21 ]		
* Nose			
	Note: acute inflammation in region of tooth		
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

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 Lab: SRI

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105010

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Hemorrhage	Moderate
[ Hemorrhage TGLs = 1-8 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Mild
	Pars Nervosa	Inflammation	Chronic, Minimal
* Preputial Gland	Duct	Ectasia	Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes	Interstit Cell	Adenoma	
		Degeneration	Minimal
Note: minimal interstitial edema			
[ Degeneration TGLs = 2-7 ]			
* Thymus		Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

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Lab: SRI

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ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105010

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

Follicular Cel

Hyperplasia

Minimal

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 553

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105011

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                          |                           |                          |
|--------------------------|--------------------------|---------------------------|--------------------------|
| * Adrenal Cortex         | * Adrenal Medulla        | * Bone                    | * Bone Marrow            |
| * Epididymis             | * Esophagus              | * Eye                     | * Harderian Gland        |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Lung                   | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric |
| * Mammary Gland          | * Nose                   | * Parathyroid Gland       | * Preputial Gland        |
| * Seminal Vesicle        | * Skin                   | * Stomach, Glandular      | * Testes                 |
| * Trachea                | * Urinary Bladder        |                           |                          |

OBSERVATIONS

- |                                 |               |                           |                         |
|---------------------------------|---------------|---------------------------|-------------------------|
| * Brain                         |               | Compression               | Moderate                |
| [ Compression TGLs = 1-1 ]      |               |                           |                         |
| * Heart                         |               | Cardiomyopathy            | Minimal                 |
| * Intestine Small, Duodenum     | Epithelium    | Vacuolization Cytoplasmic | Moderate                |
| * Intestine Small, Jejunum      | Epithelium    | Vacuolization Cytoplasmic | Marked                  |
| * Kidney                        | Pelvis        | Mineralization            | Minimal                 |
|                                 |               | Nephropathy               | Minimal                 |
| * Liver                         |               | Fatty Change              | Marked                  |
| * Pancreas                      |               | Pigmentation              | Hemosiderin, Minimal    |
| * Pituitary Gland               | Pars Distalis | Adenoma                   |                         |
| [ Adenoma TGLs = 2-1 ]          |               |                           |                         |
| * Prostate                      |               | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands               | Parotid GI    | Vacuolization Cytoplasmic | Mild                    |
| * Spleen                        |               | Pigmentation              | Minimal                 |
| * Stomach, Forestomach          |               | Hyperkeratosis            | Moderate                |
|                                 | Epithelium    | Hyperplasia               | Moderate                |
|                                 |               | Inflammation              | Chronic, Moderate       |
|                                 |               | Ulcer                     | Mild                    |
| [ Hyperkeratosis TGLs = 3-4-1 ] |               |                           |                         |
| [ Hyperplasia TGLs = 3-4-1 ]    |               |                           |                         |
| [ Inflammation TGLs = 3-4-1 ]   |               |                           |                         |
| [ Ulcer TGLs = 3-4-1 ]          |               |                           |                         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 553

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105011

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 12

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105012

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
Note: TGL1 - sheets of basophilic to vacuolated hepatocytes, large cystic spaces within neoplasm, compression of adjacent parenchyma [ Hepatocellular Adenoma TGLs = 1-21 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
[ Hyperplasia TGLs = 2-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105013

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Testes                 | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

OBSERVATIONS

- |                        |                                                                                                                                                      |                                  |                          |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------|
| * Adrenal Cortex       |                                                                                                                                                      | Hypertrophy                      | Focal, Minimal           |
| * Islets, Pancreatic   |                                                                                                                                                      | Adenoma                          |                          |
| * Kidney               | Pelvis                                                                                                                                               | Inflammation                     | Chronic Active, Mild     |
|                        | Pelvis                                                                                                                                               | Mineralization                   | Minimal                  |
|                        |                                                                                                                                                      | Nephropathy                      | Minimal                  |
| * Liver                |                                                                                                                                                      | Basophilic Focus                 | Multiple                 |
|                        |                                                                                                                                                      | Clear Cell Focus                 | Multiple                 |
| * Pituitary Gland      | Pars Distalis                                                                                                                                        | Adenoma                          |                          |
| * Preputial Gland      | Duct                                                                                                                                                 | Ectasia                          | Mild                     |
|                        | [ Ectasia TGLs = 1-8 ]                                                                                                                               |                                  |                          |
| * Prostate             |                                                                                                                                                      | Inflammation                     | Chronic Active, Minimal  |
| * Spleen               |                                                                                                                                                      | Hematopoietic Cell Proliferation | Minimal                  |
|                        |                                                                                                                                                      | Pigmentation                     | Minimal                  |
| * Stomach, Forestomach |                                                                                                                                                      | Fibrosarcoma                     |                          |
|                        |                                                                                                                                                      | Inflammation                     | Chronic Active, Moderate |
|                        | [ Fibrosarcoma TGLs = 2-4-1, 3-21 ]                                                                                                                  |                                  |                          |
| * Stomach, Glandular   |                                                                                                                                                      | Fibrosarcoma                     |                          |
|                        | Note: sheets of spindle -shaped cells with ovoid nuclei and indistinct cytoplasmic borders in the submucosa of the glandular stomach and forestomach |                                  |                          |
|                        | [ Fibrosarcoma TGLs = 3-21 ]                                                                                                                         |                                  |                          |
| * Thyroid Gland        | C Cell                                                                                                                                               | Hyperplasia                      | Mild                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 14

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105014

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Liver	Lymph Node	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex	Accessory Adrenal Cortical Nodule	Minimal
* Lung	Inflammation	Chronic, Minimal
* Preputial Gland	Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105015

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Parathyroid Gland       | * Preputial Gland           |
| * Seminal Vesicle        | * Skin                     | * Stomach, Glandular      | * Testes                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                        |                                                                                             |                                  |                         |
|------------------------|---------------------------------------------------------------------------------------------|----------------------------------|-------------------------|
| * Adrenal Cortex       |                                                                                             | Angiectasis                      | Minimal                 |
| * Heart                |                                                                                             | Cardiomyopathy                   | Minimal                 |
| * Kidney               | Pelvis                                                                                      | Inflammation                     | Chronic Active, Minimal |
|                        |                                                                                             | Nephropathy                      | Minimal                 |
| * Liver                |                                                                                             | Clear Cell Focus                 | Multiple                |
|                        |                                                                                             | Eosinophilic Focus               |                         |
|                        |                                                                                             | Thrombosis                       | Minimal                 |
| * Lung                 |                                                                                             | Infiltration Cellular            | Histiocyte, Minimal     |
|                        | [ Infiltration Cellular TGLs = 2-2 ]                                                        |                                  |                         |
| * Nose                 |                                                                                             |                                  |                         |
|                        | Note: chronic active inflammation and numerous osteoclasts in bone adjacent to tooth region |                                  |                         |
| * Pancreas             |                                                                                             | Inflammation                     | Chronic, Minimal        |
| * Pituitary Gland      | Pars Distalis                                                                               | Adenoma                          |                         |
|                        | [ Adenoma TGLs = 1-1 ]                                                                      |                                  |                         |
| * Prostate             |                                                                                             | Inflammation                     | Chronic Active, Minimal |
| * Salivary Glands      | Parotid GI                                                                                  | Inflammation                     | Chronic, Minimal        |
| * Spleen               |                                                                                             | Hematopoietic Cell Proliferation | Minimal                 |
| * Stomach, Forestomach |                                                                                             | Hyperkeratosis                   | Minimal                 |
|                        | Epithelium                                                                                  | Hyperplasia                      | Minimal                 |
| * Thymus               |                                                                                             | Atrophy                          | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 15

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105015

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105016

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                          |                           |
|--------------------------|----------------------------|--------------------------|---------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow            | * Brain                   |
| * Epididymis             | * Esophagus                | * Eye                    | * Harderian Gland         |
| * Heart                  | * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular | * Mammary Gland           |
| * Pancreas               | * Parathyroid Gland        | * Pituitary Gland        | * Preputial Gland         |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle        | * Skin                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                 | * Thymus                  |
| * Trachea                | * Urinary Bladder          |                          |                           |

OBSERVATIONS

- |                                                                                                                                                     |           |                                  |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                    |           | Angiectasis                      | Minimal             |
|                                                                                                                                                     |           | Hypertrophy                      | Focal, Minimal      |
| * Intestine Small, Duodenum                                                                                                                         |           | Fibroma                          |                     |
| * Islets, Pancreatic                                                                                                                                |           | Carcinoma                        |                     |
| [ Carcinoma TGLs = 1-21 ]                                                                                                                           |           |                                  |                     |
| * Kidney                                                                                                                                            |           | Nephropathy                      | Minimal             |
| * Liver                                                                                                                                             |           | Clear Cell Focus                 | Multiple            |
|                                                                                                                                                     | Bile Duct | Hyperplasia                      | Minimal             |
| * Lung                                                                                                                                              |           | Infiltration Cellular            | Histiocyte, Minimal |
| * Lymph Node, Mesenteric                                                                                                                            |           | Hemangiosarcoma                  |                     |
| [ Hemangiosarcoma TGLs = 3-5 ]                                                                                                                      |           |                                  |                     |
| * Nose                                                                                                                                              |           | Fungus                           | Mild                |
|                                                                                                                                                     |           | Inflammation                     | Acute, Mild         |
| Note: mats of numerous branching fungal hyphae rimmed by neutrophils within the nasal sinuses, fungi stained with a Gomori methenamine silver stain |           |                                  |                     |
| * Spleen                                                                                                                                            |           | Hemangiosarcoma                  |                     |
|                                                                                                                                                     |           | Hematopoietic Cell Proliferation | Minimal             |
| [ Hemangiosarcoma TGLs = 2-22 ]                                                                                                                     |           |                                  |                     |
| * Thyroid Gland                                                                                                                                     | C Cell    | Hyperplasia                      | Minimal             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105017

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                                                                                                                                                                    |           |                  |                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------|---------------------------------|
| * Heart                                                                                                                                                            |           | Cardiomyopathy   | Mild                            |
| * Kidney                                                                                                                                                           | Pelvis    | Inflammation     | Chronic Active, Minimal         |
|                                                                                                                                                                    |           | Nephropathy      | Minimal                         |
| * Liver                                                                                                                                                            |           | Basophilic Focus | Multiple                        |
|                                                                                                                                                                    |           | Clear Cell Focus | Multiple                        |
|                                                                                                                                                                    |           | Fatty Change     | Minimal                         |
|                                                                                                                                                                    |           | Fibrosis         | Minimal                         |
|                                                                                                                                                                    | Bile Duct | Hyperplasia      | Minimal                         |
| Note: clear cell foci on slides 6 and 23                                                                                                                           |           |                  |                                 |
| Note: TGL for adhesion corresponds to adipose tissue with blood vessels on capsular surface of liver                                                               |           |                  |                                 |
| [ Clear Cell Focus TGLs = 5-23 ]                                                                                                                                   |           |                  |                                 |
| [ Fibrosis TGLs = 4-22 ]                                                                                                                                           |           |                  |                                 |
| * Lung                                                                                                                                                             |           | Inflammation     | Multifocal, Granulomatous, Mild |
| Note: multiple foci of multinucleate giant cells rimmed by lymphocytes                                                                                             |           |                  |                                 |
| Note: one focus on the pleural surface consisted of a mass of fibroblasts and a few multinucleate giant cells                                                      |           |                  |                                 |
| [ Inflammation TGLs = 8-26, 9-27, 10-2, 11-2, 12-2 ]                                                                                                               |           |                  |                                 |
| Mesentery                                                                                                                                                          | Fat       | Necrosis         | Mild                            |
| Note: TGL 6 (slide 24) is actually mediastinum with fat necrosis consisting of cholesterol clefts and multinucleate giant cells, but mediastinum was not an option |           |                  |                                 |
| [ Necrosis TGLs = 2-21, 6-24 ]                                                                                                                                     |           |                  |                                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105017

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland	Pars Intermed	Hemorrhage	Mild
[ Hemorrhage TGLs = 7-1 ]			
* Preputial Gland		Inflammation	Chronic, Minimal
[ Inflammation TGLs = 3-25 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Saliv Glands			
Note: granulomatous inflammation with foreign plant material in adipose tissue			
* Testes		Degeneration	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 18

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105018

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

\* Preputial Gland

Inflammation

Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105019

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lung                    | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Testes                  | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                                                                                                                                |           |                            |                    |
|--------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------|--------------------|
| * Adrenal Medulla                                                                                                              |           | Pheochromocytoma Malignant |                    |
| Note: potential capsular invasion, so a malignant pheochromocytoma was diagnosed<br>[ Pheochromocytoma Malignant TGLs = 4-22 ] |           |                            |                    |
| * Heart                                                                                                                        |           | Cardiomyopathy             | Mild               |
| * Islets, Pancreatic                                                                                                           |           | Carcinoma                  |                    |
| [ Carcinoma TGLs = 3-23 ]                                                                                                      |           |                            |                    |
| * Kidney                                                                                                                       | Pelvis    | Mineralization             | Minimal            |
|                                                                                                                                |           | Nephropathy                | Mild               |
| * Liver                                                                                                                        |           | Basophilic Focus           |                    |
|                                                                                                                                |           | Clear Cell Focus           | Multiple           |
|                                                                                                                                |           | Fatty Change               | Minimal            |
|                                                                                                                                |           | Hemorrhage                 | Mild               |
|                                                                                                                                | Bile Duct | Hyperplasia                | Minimal            |
| Note: hemorrhage in site of hepatic rupture<br>[ Clear Cell Focus TGLs = 6-24 ]<br>[ Hemorrhage TGLs = 1-21 ]                  |           |                            |                    |
| Mesentery                                                                                                                      |           | Hemorrhage                 | Mild               |
| [ Hemorrhage TGLs = 5-22 ]                                                                                                     |           |                            |                    |
| * Parathyroid Gland                                                                                                            |           | Cyst                       | Multiple, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 19

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105019

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	Follicular Cel C Cell	Adenoma Hyperplasia	Minimal

---

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 20

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105020

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Degeneration	Cystic, Mild
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
Note: cholesterol clefts and macrophages			
* Lymph Node, Mandibular		Hemorrhage	Mild
[ Hemorrhage TGLs = 4-8 ]			
* Lymph Node, Mesenteric		Hemangiosarcoma	
[ Hemangiosarcoma TGLs = 2-5 ]			
* Nose			
Note: neutophilic inflammatory infiltrate adjacent to tooth			
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Mild
* Salivary Glands	Parotid GI	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105020

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hemorrhage TGLs = 1-21 ]		Hemorrhage	Focal, Marked
* Thyroid Gland	C Cell	Hyperplasia	Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105021

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Carcinoma	
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Testes		Degeneration	Marked
	[ Degeneration TGLs = 1-7 ]		
* Thymus		Atrophy	Minimal
		Hemorrhage	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105022

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| Oral Mucosa                 | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Testes                   | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

OBSERVATIONS

- |                              |           |                  |                         |
|------------------------------|-----------|------------------|-------------------------|
| * Adrenal Cortex             |           | Hypertrophy      | Focal, Minimal          |
| * Kidney                     | Pelvis    | Inflammation     | Chronic Active, Minimal |
|                              | Pelvis    | Mineralization   | Minimal                 |
|                              |           | Nephropathy      | Mild                    |
| * Liver                      |           | Basophilic Focus | Multiple                |
|                              |           | Clear Cell Focus | Multiple                |
|                              |           | Congestion       | Minimal                 |
|                              | Bile Duct | Hyperplasia      | Minimal                 |
| [ Congestion TGLs = 3-23 ]   |           |                  |                         |
| * Lymph Node, Mandibular     |           | Ectasia          | Minimal                 |
| Mesentery                    | Fat       | Necrosis         | Mild                    |
| [ Necrosis TGLs = 2-22 ]     |           |                  |                         |
| * Preputial Gland            |           | Inflammation     | Chronic, Minimal        |
| [ Inflammation TGLs = 1-21 ] |           |                  |                         |
| * Stomach, Glandular         |           | Mineralization   | Minimal                 |
| * Thyroid Gland              | C Cell    | Adenoma          |                         |
|                              | C Cell    | Hyperplasia      | Mild                    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105023

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

\* Liver

Note: macrovesicular and microvesicular vacuolization, microvesicular tends to be periportal and macrovesicular tends to be centrilobular

\* Preputial Gland

Inflammation

Chronic, Minimal



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 620

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105024

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * Bone                      | * Bone Marrow            |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Nose                   |
| * Parathyroid Gland        | * Preputial Gland         | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Trachea                   | * Urinary Bladder        |

OBSERVATIONS

- |                          |                                               |                                  |                         |
|--------------------------|-----------------------------------------------|----------------------------------|-------------------------|
| * Brain                  |                                               | Compression                      | Minimal                 |
|                          | [ Compression TGLs = 6-1 ]                    |                                  |                         |
| * Epididymis             |                                               | Vacuolization Cytoplasmic        | Mild                    |
| * Eye                    |                                               |                                  |                         |
|                          | Note: optic nerve not present                 |                                  |                         |
| * Heart                  |                                               | Cardiomyopathy                   | Mild                    |
| * Kidney                 |                                               | Hydronephrosis                   | Moderate                |
|                          |                                               | Nephropathy                      | Marked                  |
|                          | [ Hydronephrosis TGLs = 1-21 ]                |                                  |                         |
|                          | [ Nephropathy TGLs = 3-6, 3-6-1, 4-6, 4-6-1 ] |                                  |                         |
| * Liver                  |                                               | Clear Cell Focus                 | Multiple                |
|                          | Bile Duct                                     | Hyperplasia                      | Minimal                 |
| * Lung                   |                                               | Infiltration Cellular            | Histiocyte, Minimal     |
|                          | [ Infiltration Cellular TGLs = 8-2, 9-2 ]     |                                  |                         |
| * Lymph Node, Mesenteric |                                               | Hemangiosarcoma                  |                         |
|                          | [ Hemangiosarcoma TGLs = 10-5 ]               |                                  |                         |
| * Mammary Gland          |                                               | Pigmentation                     | Hemosiderin, Minimal    |
| * Pancreas               |                                               | Adenoma                          |                         |
| * Pituitary Gland        | Pars Distalis                                 | Adenoma                          |                         |
|                          | [ Adenoma TGLs = 7-1 ]                        |                                  |                         |
| * Prostate               |                                               | Inflammation                     | Chronic Active, Minimal |
| * Spleen                 |                                               | Hematopoietic Cell Proliferation | Minimal                 |
|                          |                                               | Pigmentation                     | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 620

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105024

ORGAN AND ACCOUNTABLE SITE STATUS

* Stomach, Glandular		Mineralization	Minimal
* Testes	Interstit Cell	Adenoma	
		Degeneration	Mild
Note: multinucleate syncytial cells within seminiferous tubules [ Adenoma TGLs = 11-7 ]			
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
Ureter		Cyst	Minimal
Note: minimal dilatation of ureters, dilatation not an option [ Cyst TGLs = 2-22 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105025

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	Follicular Cel	Hyperplasia	Minimal
	C Cell	Hyperplasia	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105026

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**MISSING**

- \* Mammary Gland

**INSUFFICIENT TISSUE**

- \* Parathyroid Gland

**OBSERVATIONS**

- |                                |               |                                  |                         |
|--------------------------------|---------------|----------------------------------|-------------------------|
| * Adrenal Cortex               |               | Hyperplasia                      | Focal, Minimal          |
| Note: only one adrenal present |               |                                  |                         |
| * Heart                        |               | Cardiomyopathy                   | Mild                    |
| * Kidney                       | Pelvis        | Inflammation                     | Chronic Active, Minimal |
|                                |               | Nephropathy                      | Minimal                 |
| * Liver                        |               | Basophilic Focus                 |                         |
|                                |               | Clear Cell Focus                 | Multiple                |
| * Lung                         |               | Infiltration Cellular            | Histiocyte, Minimal     |
| * Pituitary Gland              | Pars Distalis | Hyperplasia                      | Focal, Minimal          |
| * Spleen                       |               | Hematopoietic Cell Proliferation | Minimal                 |
| * Testes                       |               | Degeneration                     | Marked                  |
| [ Degeneration TGLs = 1-7 ]    |               |                                  |                         |
| * Thyroid Gland                | C Cell        | Hyperplasia                      | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 27

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105027

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 669

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105028

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
Peripheral Nerve	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	Spinal Cord	* Spleen	* Stomach, Glandular
* Testes	Tooth	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex	Angiectasis	Minimal
	Vacuolization Cytoplasmic	Minimal
* Brain	Glioma Malignant	
	Granular Cell Tumor Benign	

Note: in addition to round cells, spindle shaped cells and multinucleate cells are also present in the neoplasm, scattered foci of gitter cells in neoplasm

Note: poorly demarcated mass in cerebral neuropil, meninges and ventricle consisting of sheets round to polygonal cells with moderate amounts eosinophilic cytoplasm

Note: neoplasm extends to olfactory lobe of brain

* Heart	Cardiomyopathy	Minimal
* Kidney	Nephropathy	Minimal
* Liver	Basophilic Focus	
	Clear Cell Focus	Multiple
	Fatty Change	Moderate

Note: clear cell focus consists of pale vacuolated hepatocytes

[ Clear Cell Focus TGLs = 4-22 ]

[ Fatty Change TGLs = 1-21 ]

\* Nose

Note: brain neoplasm in olfactory lobe of brain

* Pituitary Gland	Glioma Malignant	Metastatic (Brain)
* Prostate	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 669

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105028

**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Mild

Hyperplasia

Moderate

Inflammation

Chronic, Minimal

Ulcer

Minimal

[ Hyperkeratosis TGLs = 3-4-1 ]

[ Hyperplasia TGLs = 3-4-1 ]

[ Ulcer TGLs = 3-4-1 ]

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Tooth

Note: NCL for TGL 2

PRIMARY CAUSE OF DEATH

- Brain Glioma Malignant

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105029

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Liver	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Kidney	Inflammation	Chronic, Minimal
* Preputial Gland	Inflammation	Chronic, Minimal



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105030

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Epididymis                |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Mammary Gland          | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Preputial Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**OBSERVATIONS**

- |                                                                                                                                    |               |                       |                     |
|------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------|---------------------|
| * Adrenal Cortex                                                                                                                   |               | Hyperplasia           | Focal, Minimal      |
| * Brain                                                                                                                            |               | Compression           | Minimal             |
| [ Compression TGLs = 3-1 ]                                                                                                         |               |                       |                     |
| * Kidney                                                                                                                           | Pelvis        | Mineralization        | Mild                |
|                                                                                                                                    |               | Nephropathy           | Minimal             |
| * Liver                                                                                                                            |               | Clear Cell Focus      | Multiple            |
|                                                                                                                                    | Bile Duct     | Hyperplasia           | Minimal             |
| * Lung                                                                                                                             |               | Infiltration Cellular | Histiocyte, Minimal |
| * Lymph Node, Mesenteric                                                                                                           |               | Hemangiosarcoma       |                     |
| [ Hemangiosarcoma TGLs = 2-5 ]                                                                                                     |               |                       |                     |
| * Pituitary Gland                                                                                                                  | Pars Distalis | Adenoma               |                     |
| Note: a few bizarre cells                                                                                                          |               |                       |                     |
| [ Adenoma TGLs = 4-1 ]                                                                                                             |               |                       |                     |
| * Skin                                                                                                                             |               | Inflammation          | Chronic, Minimal    |
| * Stom Gland                                                                                                                       |               |                       |                     |
| Note: two areas of stratified squamous epithelium in the mucosa between the glandular mucosa, considered an artifact of sectioning |               |                       |                     |
| * Testes                                                                                                                           |               | Degeneration          | Moderate            |
| [ Degeneration TGLs = 1-7 ]                                                                                                        |               |                       |                     |
| * Thymus                                                                                                                           |               | Atrophy               | Mild                |
| * Thyroid Gland                                                                                                                    | C Cell        | Hyperplasia           | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105031

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Preputial Gland           | * Prostate               | * Salivary Glands          | * Seminal Vesicle         |
| * Stomach, Forestomach      | * Testes                 | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

OBSERVATIONS

- |                          |                                                                                                                                                             |                                  |                     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------|
| * Heart                  |                                                                                                                                                             | Cardiomyopathy                   | Mild                |
| * Islets, Pancreatic     |                                                                                                                                                             | Adenoma                          |                     |
|                          | [ Adenoma TGLs = 2-22 ]                                                                                                                                     |                                  |                     |
| * Kidney                 |                                                                                                                                                             | Nephropathy                      | Minimal             |
| * Liver                  |                                                                                                                                                             | Clear Cell Focus                 | Multiple            |
|                          |                                                                                                                                                             | Fatty Change                     | Minimal             |
|                          | Bile Duct                                                                                                                                                   | Hyperplasia                      | Minimal             |
| * Lung                   |                                                                                                                                                             | Infiltration Cellular            | Histiocyte, Minimal |
| * Lymph Node, Mandibular |                                                                                                                                                             | Ectasia                          | Mild                |
| Mesentery                | Fat                                                                                                                                                         | Necrosis                         | Mild                |
|                          | [ Necrosis TGLs = 3-23 ]                                                                                                                                    |                                  |                     |
| * Pituitary Gland        | Pars Distalis                                                                                                                                               | Adenoma                          |                     |
|                          | Pars Distalis                                                                                                                                               | Hyperplasia                      | Focal, Mild         |
|                          | [ Adenoma TGLs = 4-1 ]                                                                                                                                      |                                  |                     |
| * Preputial GI           |                                                                                                                                                             |                                  |                     |
|                          | Note: granulomatous inflammation with foreign plant material adjacent to rectum in preputial gland section                                                  |                                  |                     |
| * Skin                   |                                                                                                                                                             | Fibroma                          |                     |
|                          | Note: mass consisting of dense sheets of fibroblasts and collagen within adipose tissue, neoplasm consists principally of collagen, possibly a fibroadenoma |                                  |                     |
|                          | [ Fibroma TGLs = 1-21 ]                                                                                                                                     |                                  |                     |
| * Spleen                 |                                                                                                                                                             | Hematopoietic Cell Proliferation | Mild                |
| * Stomach, Glandular     |                                                                                                                                                             | Mineralization                   | Minimal             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 31

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105031

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 515

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105032

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Preputial Gland        | * Prostate                 | * Seminal Vesicle         |
| * Skin                      | * Stomach, Glandular     | * Testes                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

OBSERVATIONS

- |                                |               |                           |                         |
|--------------------------------|---------------|---------------------------|-------------------------|
| * Brain                        |               | Compression               | Moderate                |
| [ Compression TGLs = 4-1 ]     |               |                           |                         |
| * Kidney                       | Pelvis        | Inflammation              | Chronic Active, Minimal |
|                                |               | Nephropathy               | Minimal                 |
| * Liver                        |               | Fatty Change              | Marked                  |
| [ Fatty Change TGLs = 3-6 ]    |               |                           |                         |
| * Lymph Node, Mesenteric       |               | Hemangiosarcoma           |                         |
| [ Hemangiosarcoma TGLs = 2-5 ] |               |                           |                         |
| * Mammary Gland                | Duct          | Dilatation                | Minimal                 |
| * Pituitary Gland              | Pars Distalis | Adenoma                   |                         |
| [ Adenoma TGLs = 5-1 ]         |               |                           |                         |
| * Salivary Glands              | Parotid GI    | Atrophy                   | Moderate                |
|                                | Parotid GI    | Vacuolization Cytoplasmic | Mild                    |
| * Spleen                       |               | Pigmentation              | Mild                    |
| * Stomach, Forestomach         |               | Hyperkeratosis            | Moderate                |
|                                | Epithelium    | Hyperplasia               | Moderate                |
|                                |               | Inflammation              | Chronic Active, Mild    |
|                                |               | Ulcer                     | Mild                    |

Note: lesions in forestomach are multifocal

[ Hyperkeratosis TGLs = 6-4-1 ]

[ Hyperplasia TGLs = 6-4-1 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 515

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105032

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Inflammation TGLs = 6-4-1 ]

[ Ulcer TGLs = 6-4-1 ]

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105033

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Harderian Gland		Hyperplasia	Focal, Minimal
Note: hypereosinophilic, hypertrophic cells with slight infolding in acini			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Intermed	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	Follicular Cel	Hyperplasia	Mild
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105034

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone                    | * Bone Marrow               |
| * Brain                  | * Epididymis               | * Esophagus               | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

OBSERVATIONS

- |                   |                                                            |                                  |                         |
|-------------------|------------------------------------------------------------|----------------------------------|-------------------------|
| * Eye             | Retina                                                     | Atrophy                          | Mild                    |
| * Heart           |                                                            | Cardiomyopathy                   | Mild                    |
| * Kidney          | Pelvis                                                     | Inflammation                     | Chronic Active, Minimal |
|                   | Pelvis                                                     | Mineralization                   | Minimal                 |
|                   |                                                            | Nephropathy                      | Mild                    |
| * Liver           |                                                            | Basophilic Focus                 |                         |
|                   |                                                            | Clear Cell Focus                 | Multiple                |
|                   |                                                            | Hepatocellular Adenoma           |                         |
|                   | Bile Duct                                                  | Hyperplasia                      | Minimal                 |
|                   |                                                            | Mixed Cell Focus                 |                         |
|                   | [ Clear Cell Focus TGLs = 1-6 ]                            |                                  |                         |
| * Lung            | Alveolar Epith                                             | Hyperplasia                      | Minimal                 |
| * Nose            |                                                            |                                  |                         |
|                   | Note: focal chronic-active inflammation in region of tooth |                                  |                         |
| * Preputial Gland |                                                            | Mineralization                   | Minimal                 |
| * Prostate        |                                                            | Inflammation                     | Chronic Active, Minimal |
| * Spleen          |                                                            | Hematopoietic Cell Proliferation | Minimal                 |
| * Thymus          |                                                            | Atrophy                          | Mild                    |
| * Thyroid Gland   | C Cell                                                     | Hyperplasia                      | Mild                    |
|                   | Follicular Cel                                             | Hyperplasia                      | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105035

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Mild
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 1-5 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	Follicular Cel	Hyperplasia	Minimal
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105036

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                                                                                                                          |        |                  |                         |
|--------------------------------------------------------------------------------------------------------------------------|--------|------------------|-------------------------|
| * Adrenal Cortex                                                                                                         |        | Hyperplasia      | Focal, Minimal          |
|                                                                                                                          |        | Hypertrophy      | Focal, Minimal          |
| * Kidney                                                                                                                 | Pelvis | Inflammation     | Chronic Active, Minimal |
| * Liver                                                                                                                  |        | Basophilic Focus |                         |
|                                                                                                                          |        | Clear Cell Focus | Multiple                |
|                                                                                                                          |        | Fatty Change     | Minimal                 |
| Note: TGL 21 corresponds to large clear cell focus with microvesicular vacuolization<br>[ Clear Cell Focus TGLs = 2-21 ] |        |                  |                         |
| * Testes                                                                                                                 |        | Degeneration     | Mild                    |
|                                                                                                                          |        |                  |                         |
|                                                                                                                          |        |                  |                         |
| * Thyroid Gland                                                                                                          | C Cell | Hyperplasia      | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105037

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Preputial Gland	Inflammation	Chronic, Minimal
-------------------	--------------	------------------

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105038

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
* Nose			
Note: sebaceous gland hyperplasia with chronic inflammation in palate			
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin		Basal Cell Adenoma	
	[ Basal Cell Adenoma TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105039

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Mild
* Liver		Clear Cell Focus	
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 4-2 ]			
* Lymph Node, Mesenteric		Hemangioma	
Mesentery	Fat	Necrosis	Mild
Note: abscess within mesenteric fat consisting of neutrophils encircled by fibrous connective tissue			
[ Necrosis TGLs = 1-21 ]			
* Nose			
Note: chronic active inflammation beneath teeth			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1, 3-1 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 709

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105040

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Harderian Gland
* Intestine Large, Colon	* Intestine Large, Rectum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Testes	* Urinary Bladder		

AUTO PRECLUDES DIAG.

* Eye	* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Pancreas	* Salivary Glands	* Spleen
* Stomach, Glandular	* Thymus	* Thyroid Gland	

INSUFFICIENT TISSUE

\* Mammary Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Mineralization	Mild
		Nephropathy	Minimal
* Liver		Fatty Change	Moderate
	Hepatocyte	Necrosis	Mild
	Note: appears to be centrilobular coagulative hepatic necrosis, but may be correspond to post-mortem autolysis		
* Lung		Inflammation	Acute, Moderate
	Note: numerous neutrophils admixed with a few macrophages, a few bacterial colonies and foreign material (plant) within alveoli and airways		
Lymph Node	Mediastinal	Hemorrhage	Moderate
	[ Hemorrhage TGLs = 2-3 ]		
* Nose	Squam Epithel	Cyst	Mild
		Fungus	
		Inflammation	Acute, Mild
	Note: epithelial inclusion cyst in nose consisting of cyst lined by keratinized stratified squamous epithelium with laminated keratin contents		
	Note: fungi stained with the Gomori methenamine silver stain		
* Trachea		Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 40

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 709

**DOSE:** 0 MG/KG

**DISP:** Natural Death

**HISTO:** 110520105040

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Lung Inflammation

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 574

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105041

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Colon
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle	* Stomach, Glandular
* Testes	Tissue NOS	* Trachea	* Urinary Bladder

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Pancreas	* Salivary Glands
* Thymus	* Thyroid Gland		

**OBSERVATIONS**

* Brain [ Compression TGLs = 2-1 ]		Compression	Minimal
* Heart Note: extensive fibrosis in myocardial interstitium, left ventricle free wall		Cardiomyopathy	Moderate
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Necrosis	Minimal
	Note: degenerate neutrophils in site of necrosis		
* Lung [ Infiltration Cellular TGLs = 6-24 ]		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Moderate
Mesentery [ Lipoma TGLs = 4-22 ]		Lipoma	
* Pituitary Gland [ Adenoma TGLs = 3-1 ]	Pars Distalis	Adenoma	
* Prostate		Inflammation	Chronic Active, Mild
* Skin [ Keratoacanthoma TGLs = 1-21 ]		Keratoacanthoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 574

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105041

**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Spleen

\* Stomach, Forestomach

Epithelium

Pigmentation

Hyperkeratosis

Hyperplasia

Inflammation

Minimal

Mild

Marked

Chronic, Mild

Note: lesions in forestomach are multifocal, lesions also present on slide 4-1

[ Hyperkeratosis TGLs = 5-23 ]

[ Hyperplasia TGLs = 5-23 ]

[ Inflammation TGLs = 5-23 ]

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105042

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Clear Cell Focus	Multiple
		Congestion	Minimal
		Fatty Change	Minimal
		Hemorrhage	Mild
	[ Congestion TGLs = 4-22 ]		
	[ Hemorrhage TGLs = 2-6 ]		
* Pituitary Gland	Pars Distalis	Cyst	
* Prostate		Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Skeletal Muscle		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 3-21 ]		
* Stomach, Forestomach		Hyperkeratosis	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 43

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105043

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
Note: a few scattered hepatocellular vacuoles			
* Lung		Infiltration Cellular	Histiocyte, Minimal
Mesentery	Fat	Necrosis	Mild
		[ Necrosis TGLs = 2-21 ]	
* Testes		Degeneration	Mild
		[ Degeneration TGLs = 1-7 ]	
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105044

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
		Leukemia	
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial Gland		Carcinoma	
	[ Carcinoma TGLs = 1-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Adenoma	
* Skin		Cyst Epithelial Inclusion	Marked
	[ Cyst Epithelial Inclusion TGLs = 3-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Moderate
	[ Hematopoietic Cell Proliferation TGLs = 2-6 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 3

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105045

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Liver	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Pituitary Gland	* Preputial Gland	* Prostate
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Mandibular	* Mammary Gland	* Parathyroid Gland	* Salivary Glands
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AUTO PRECLUDES DIAG.

\* Thyroid Gland

OBSERVATIONS

* Kidney	Renal Tubule	Hyperplasia	Mild
* Lung	[ Inflammation TGLs = 1-2 ]	Inflammation	Chronic, Minimal
* Spleen		Hematopoietic Cell Proliferation	Moderate

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 508

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105046

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Brain		Compression	Moderate
[ Compression TGLs = 5-1 ]			
* Islets, Pancreatic		Hyperplasia	Minimal
* Liver		Congestion	Minimal
Note: subcapsular hemorrhage and congestion			
[ Congestion TGLs = 2-22 ]			
* Mammary Gland	Duct	Dilatation	Minimal
Note: duct contains hemorrhage and is rimmed by fibrosis and chronic inflammation			
[ Dilatation TGLs = 4-23 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 6-1 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 44

DOSE: 0 MG/KG

DISP: Dosing Accident

HISTO: 110520105047

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Islets, Pancreatic	* Kidney	* Liver	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

\* Thymus

AUTO PRECLUDES DIAG.

\* Intestine Small, Ileum                      \* Intestine Small, Jejunum

OBSERVATIONS

* Esophagus	Periesoph Tiss	Inflammation	Granulomatous, Chronic, Marked
Note: foreign material present [ Inflammation TGLs = 1-22 ]			
* Heart	Epicardium	Inflammation	Granulomatous, Marked
Note: fibroplasia, mononuclear infiltrate admixed with variable numbers of multinucleate giant cells and neutrophils, fibrin exudate, foreign material			
* Lung	Mediastinum	Inflammation	Chronic, Minimal
		Inflammation	Granulomatous, Marked
[ Inflammation TGLs = 5-23 ]			
Lymph Node	Mediastinal	Hyperplasia	Plasma Cell, Moderate
Note: chronic inflammation in adipose tissue peripheral to lymph node [ Hyperplasia TGLs = 4-24 ]			
Tissue NOS		Inflammation	Chronic Active, Marked
Note: foreign material (eosinophilic) in center of inflammation [ Inflammation TGLs = 3-21 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105048

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Liver                  | * Lung                     |
| * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland          | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Salivary Glands          |
| * Seminal Vesicle         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Testes                    | * Thymus                 | * Thyroid Gland            |
| * Trachea                 | * Urinary Bladder           |                          |                            |

OBSERVATIONS

- |                   |              |                  |
|-------------------|--------------|------------------|
| * Preputial Gland | Inflammation | Chronic, Minimal |
| * Prostate        | Inflammation | Chronic, Minimal |

Note: lymphoplasmacytic infiltrate in interstitium

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 49

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105049

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Skin	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	[ Clear Cell Focus TGLs = 2-6 ]		
* Lymph Node, Mesenteric		Hemorrhage	Minimal
	[ Hemorrhage TGLs = 3-5 ]		
* Seminal Vesicle		Inflammation	Acute, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Forestomach		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 4-4-1 ]		
* Testes		Degeneration	Mild
	[ Degeneration TGLs = 1-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 537

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105050

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Harderian Gland
* Heart	* Intestine Large, Rectum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

AUTO PRECLUDES DIAG.

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Pancreas	* Spleen
* Thymus	* Thyroid Gland		

INSUFFICIENT TISSUE

\* Mammary Gland

OBSERVATIONS

* Kidney	Pelvis	Inflammation	Chronic Active, Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Necrosis	Minimal
Mesentery		Hemorrhage	Marked
Note: tissue corresponds to mediastinum [ Hemorrhage TGLs = 2-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 51

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105051

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Lymph Node, Mandibular  |
| * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                      |                                       |                                  |                      |
|----------------------|---------------------------------------|----------------------------------|----------------------|
| * Heart              |                                       | Cardiomyopathy                   | Mild                 |
| * Islets, Pancreatic |                                       | Adenoma                          |                      |
| * Kidney             | Pelvis                                | Inflammation                     | Chronic Active, Mild |
|                      |                                       | Nephropathy                      | Minimal              |
| * Liver              |                                       | Basophilic Focus                 | Multiple             |
|                      |                                       | Clear Cell Focus                 | Multiple             |
|                      |                                       | Congestion                       | Minimal              |
|                      |                                       | Fatty Change                     | Mild                 |
|                      |                                       | Hepatocellular Adenoma           |                      |
|                      | Bile Duct                             | Hyperplasia                      | Minimal              |
|                      |                                       | Mixed Cell Focus                 |                      |
|                      | [ Congestion TGLs = 2-21 ]            |                                  |                      |
|                      | [ Hepatocellular Adenoma TGLs = 3-6 ] |                                  |                      |
| * Lung               |                                       | Infiltration Cellular            | Histiocyte, Minimal  |
| * Parathyroid Gland  |                                       | Adenoma                          |                      |
| * Pituitary Gland    | Pars Distalis                         | Adenoma                          |                      |
| * Spleen             |                                       | Hematopoietic Cell Proliferation | Minimal              |
| * Testes             |                                       | Degeneration                     | Minimal              |
|                      | [ Degeneration TGLs = 5-7 ]           |                                  |                      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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**ANIMAL ID:** 51

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105051

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 52

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105052

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Preputial Gland		Inflammation	Granulomatous, Chronic, Minimal
[ Inflammation TGLs = 2-8 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 53

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105053

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-2 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
Note: for TGL 1 abnormal fissures and lobulations not routinely tabulated			
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 55

TRT#: 1

SEX: Male

DAY ON TEST: 630

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105055

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Eye	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland
* Preputial Gland	* Prostate	* Seminal Vesicle	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 2-1 ]		
* Esophagus		Hyperkeratosis	Mild
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
* Kidney	Pelvis	Inflammation	Chronic Active, Moderate
	Pelvis	Mineralization	Mild
* Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Necrosis	Minimal
	Note: periductular fibrosis as well as bile duct hyperplasia		
	Note: a few neutrophils and hemorrhage in multifocal sites of hepatocellular necrosis		
* Lung		Inflammation	Acute, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	Note: uniform population of neoplastic cells		
	[ Adenoma TGLs = 3-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Mild
	Duct, Parotid GI	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 55

TRT#: 1

SEX: Male

DAY ON TEST: 630

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105055

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Skin		Inflammation	Acute, Mild
		Ulcer	Mild
	[ Inflammation TGLs = 4-21 ]		
	[ Ulcer TGLs = 4-21 ]		
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Erosion	Minimal
		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate
		Inflammation	Acute, Minimal
	[ Erosion TGLs = 5-4-1 ]		
	[ Hyperkeratosis TGLs = 5-4-1 ]		
	[ Hyperplasia TGLs = 5-4-1 ]		
	[ Inflammation TGLs = 5-4-1 ]		
* Thymus		Atrophy	Moderate
* Thyroid Gland		Cyst	
	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 56

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105056

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**OBSERVATIONS**

- |                   |                                 |                                  |                      |
|-------------------|---------------------------------|----------------------------------|----------------------|
| * Heart           |                                 | Cardiomyopathy                   | Minimal              |
| * Kidney          | Pelvis                          | Inflammation                     | Chronic Active, Mild |
|                   |                                 | Nephropathy                      | Moderate             |
| * Liver           |                                 | Basophilic Focus                 | Multiple             |
|                   |                                 | Clear Cell Focus                 | Multiple             |
|                   |                                 | Fatty Change                     | Minimal              |
|                   | [ Clear Cell Focus TGLs = 1-6 ] |                                  |                      |
| * Lung            |                                 | Infiltration Cellular            | Histiocyte, Minimal  |
| * Pituitary Gland | Pars Distalis                   | Hyperplasia                      | Focal, Minimal       |
| * Spleen          |                                 | Hematopoietic Cell Proliferation | Minimal              |
| * Thyroid Gland   | C Cell                          | Adenoma                          |                      |
|                   | C Cell                          | Hyperplasia                      | Minimal              |



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 57

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105057

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Heart		Cardiomyopathy	Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Testes		Degeneration	Mild
	[ Degeneration TGLs = 1-7 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 58

TRT#: 1

SEX: Male

DAY ON TEST: 619

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105058

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	Peripheral Nerve	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	Spinal Cord	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 3-1 ]		
* Liver		Inflammation	Chronic, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
		Pigmentation	Hemosiderin, Minimal
Mesentery	Fat	Necrosis	Minimal
	[ Necrosis TGLs = 1-21 ]		
* Parathyroid Gland		Adenoma	Multiple
	Note: multiple adenomas compressing adjacent parathyroid parenchyma, clusters of uniform population of enlarged cells with round nuclei and basophilic cytoplasm		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Prostate		Inflammation	Chronic Active, Mild
* Spleen		Pigmentation	Mild
	Note: depression in splenic surface corresponds to TGL 2		
* Thymus		Atrophy	Marked
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 59

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105059

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Glandular	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLs = 4-21 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Preputial Gland		Inflammation	Chronic, Minimal
Note: inflammation in adipose tissue adjacent to preputial gland			
[ Inflammation TGLs = 3-8 ]			
* Prostate		Inflammation	Chronic Active, Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild
* Testes		Degeneration	Moderate
[ Degeneration TGLs = 1-7, 2-7 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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**ANIMAL ID:** 59

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105059

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 60

TRT#: 1

SEX: Male

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105060

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Lung	Inflammation	Chronic, Minimal
Note: subpleural mononuclear infiltrate		
* Preputial Gland	Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 61

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105061

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Hypertrophy	Focal, Minimal
* Brain		Compression	Minimal
	[ Compression TGLs = 3-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney		Hydronephrosis	Minimal
		Nephropathy	Minimal
	Note: medulla and pelvis of left kidney missing		
	[ Hydronephrosis TGLs = 1-5 ]		
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Pituitary Gland		Craniopharyngioma	
	Note: pars distalis effaced by nests and tubules of large pleomorphic epithelial cells with large vesicular nuclei and moderate amounts of cytoplasm		
	Note: neoplastic cells have discrete cytoplasmic borders, scattered individual epithelial cells in a loosely arranged fibrous connective tissue stroma also present		
	[ Craniopharyngioma TGLs = 2-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 62

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105062

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Seminal Vesicle
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 3-1 ]			
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
	Pelvis	Mineralization	Minimal
Note: debris within pelvic lumen suggestive of neutrophilic debris but may be sloughed cells			
* Liver		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Mild
Note: predominantly macrovesicular			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 4-1 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Skin		Hyperkeratosis	Mild
	Epidermis	Hyperplasia	Minimal
		Inflammation	Chronic Active, Moderate
		Lymphoma Malignant	
		Ulcer	Moderate
Note: serocellular crust on site of ulceration with extensive inflammation in underlying dermis			
Note: serocellular crust, neutrophils, plasma cells and lymphocytes, subcorneal pustule			
Note: uniform population of small lymphocytes in epidermis and epithelium of hair follicles, lesion suggestive of epitheliotropic lymphoma			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 62

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105062

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hyperkeratosis TGLs = 1-21 ]

[ Hyperplasia TGLs = 1-21 ]

[ Inflammation TGLs = 1-21 ]

[ Lymphoma Malignant TGLs = 1-21 ]

[ Ulcer TGLs = 1-21 ]

\* Spleen

\* Stomach, Forestomach

Epithelium

Pigmentation

Edema

Hyperkeratosis

Hyperplasia

Inflammation

Ulcer

Minimal

Mild

Mild

Moderate

Chronic Active, Moderate

Moderate

[ Edema TGLs = 5-4-1 ]

[ Hyperkeratosis TGLs = 5-4-1 ]

[ Hyperplasia TGLs = 5-4-1 ]

[ Inflammation TGLs = 5-4-1 ]

[ Ulcer TGLs = 5-4-1 ]

\* Thymus

\* Thyroid Gland

C Cell

Atrophy

Hyperplasia

Minimal

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 63

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105063

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Brain		Compression	Minimal
	[ Compression TGLs = 3-1 ]		
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
* Mammary Gland	Duct	Dilatation	Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 1-21 ]		
* Parathyroid Gland		Hyperplasia	Focal, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Adenoma	
	Note: nodular mass compressing pars nervosa consisting of nests of elongated palisading cells within a fine connective tissue stroma in the pars intermedia - adenoma		
	[ Adenoma TGLs = 4-1 ]		
	[ Adenoma TGLs = 4-1 ]		
* Preputial Gland		Inflammation	Chronic Active, Minimal
	[ Inflammation TGLs = 2-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 63

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105063

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes		Pigmentation	Minimal
		Degeneration	Mild
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 64

TRT#: 3

SEX: Male

DAY ON TEST: 645

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105064

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Epididymis	* Esophagus	* Heart
* Lung	* Parathyroid Gland		

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Adrenal Medulla	* Bone Marrow	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Glandular	* Testes
* Thyroid Gland	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Brain [ Compression TGLs = 2-1 ]		Compression	Minimal
* Liver	Hepatocyte	Fatty Change	Mild
* Mammary Gland		Hypertrophy	Mild
* Pituitary Gland [ Adenoma TGLs = 1-1 ]	Pars Distalis	Pigmentation	Hemosiderin, Minimal
* Prostate		Adenoma	
* Stomach, Forestomach [ Hyperkeratosis TGLs = 4-4-1 ]		Inflammation	Chronic Active, Minimal
* Thymus		Hyperkeratosis	Minimal
		Atrophy	Moderate

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 65

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105065

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone                    | * Bone Marrow               |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Preputial Gland        | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |                                       |                |                       |                         |
|---------------------------------------|----------------|-----------------------|-------------------------|
| * Brain                               | Meninges       | Hemangioma            |                         |
| [ Hemangioma TGLs = 3-22, 1 ]         |                |                       |                         |
| * Eye                                 |                |                       |                         |
| Note: one eye distorted (autolysis?)  |                |                       |                         |
| * Heart                               |                | Cardiomyopathy        | Minimal                 |
| * Kidney                              | Pelvis         | Inflammation          | Chronic Active, Minimal |
|                                       |                | Nephropathy           | Minimal                 |
| * Liver                               |                | Clear Cell Focus      | Multiple                |
|                                       |                | Fatty Change          | Minimal                 |
|                                       | Hepatocyte     | Hypertrophy           | Mild                    |
| * Lung                                |                | Infiltration Cellular | Histiocyte, Minimal     |
| [ Infiltration Cellular TGLs = 4-21 ] |                |                       |                         |
| * Mammary Gland                       |                | Pigmentation          | Hemosiderin, Minimal    |
| * Pituitary Gland                     | Pars Distalis  | Adenoma               |                         |
| [ Adenoma TGLs = 2-1 ]                |                |                       |                         |
| * Prostate                            |                | Inflammation          | Chronic Active, Minimal |
| * Spleen                              |                | Pigmentation          | Minimal                 |
| * Testes                              | Interstit Cell | Adenoma               |                         |
|                                       |                | Degeneration          | Mild                    |
| [ Adenoma TGLs = 1-7 ]                |                |                       |                         |
| * Thyroid Gland                       | C Cell         | Adenoma               |                         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 65

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105065

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 66

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105066

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Brain                  |
| * Epididymis               | * Esophagus               | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

OBSERVATIONS

- |                                                                                                                                                                                                                                                                                        |               |                                  |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                                                                                                                                       |               | Hyperplasia                      | Focal, Minimal      |
| Blood Vessel                                                                                                                                                                                                                                                                           |               | Angiectasis                      | Mild                |
| Note: the tissue consists of arteries and dilated veins<br>[ Angiectasis TGLs = 1-21 ]                                                                                                                                                                                                 |               |                                  |                     |
| * Eye                                                                                                                                                                                                                                                                                  | Retina        | Atrophy                          | Minimal             |
| * Heart                                                                                                                                                                                                                                                                                |               | Cardiomyopathy                   | Mild                |
| * Kidney                                                                                                                                                                                                                                                                               |               | Nephropathy                      | Minimal             |
| * Liver                                                                                                                                                                                                                                                                                |               | Basophilic Focus                 |                     |
|                                                                                                                                                                                                                                                                                        |               | Clear Cell Focus                 | Multiple            |
|                                                                                                                                                                                                                                                                                        |               | Fatty Change                     | Minimal             |
|                                                                                                                                                                                                                                                                                        | Bile Duct     | Hyperplasia                      | Minimal             |
|                                                                                                                                                                                                                                                                                        | Hepatocyte    | Hypertrophy                      | Mild                |
|                                                                                                                                                                                                                                                                                        | Hepatocyte    | Necrosis                         | Moderate            |
| Note: minimal fibrinous exudate on capsular surface of section of necrotic liver<br>Note: extensive focus coagulative necrosis of hepatocytes and congestion involving multiple lobules , bile duct hyperplasia is prominent, minimal inflammation present<br>[ Necrosis TGLs = 2-22 ] |               |                                  |                     |
| * Lung                                                                                                                                                                                                                                                                                 |               | Infiltration Cellular            | Histiocyte, Minimal |
| * Pituitary Gland                                                                                                                                                                                                                                                                      | Pars Distalis | Adenoma                          |                     |
| [ Adenoma TGLs = 3-1 ]                                                                                                                                                                                                                                                                 |               |                                  |                     |
| * Spleen                                                                                                                                                                                                                                                                               |               | Hematopoietic Cell Proliferation | Minimal             |
| * Thymus                                                                                                                                                                                                                                                                               |               | Atrophy                          | Mild                |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 66

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105066

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell  
Follicle

Hyperplasia  
Hypertrophy

Mild  
Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 67

TRT#: 3

SEX: Male

DAY ON TEST: 658

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105067

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Rectum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Skin
- \* Urinary Bladder
- \* Bone
- \* Eye
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Bone Marrow
- \* Harderian Gland
- \* Islets, Pancreatic
- \* Mammary Gland
- \* Preputial Gland
- \* Testes
- \* Epididymis
- \* Intestine Large, Colon
- \* Lung
- \* Nose
- \* Seminal Vesicle
- \* Trachea

AUTO PRECLUDES DIAG.

- \* Intestine Large, Cecum
- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum

OBSERVATIONS

- \* Adrenal Cortex
  - \* Brain
    - [ Compression TGLs = 3-1 ]
  - \* Heart
  - \* Kidney
  - \* Liver
    - [ Congestion TGLs = 1-21 ]
    - [ Fatty Change TGLs = 2-22 ]
    - [ Hepatocellular Adenoma TGLs = 2-22 ]
  - \* Pituitary Gland
    - [ Adenoma TGLs = 4-1 ]
  - \* Prostate
  - \* Salivary Glands
  - \* Spleen
  - \* Stomach, Forestomach
    - [ Hyperkeratosis TGLs = 5-4-1 ]
- |  |                        |                      |
|--|------------------------|----------------------|
|  | Angiectasis            | Minimal              |
|  | Compression            | Minimal              |
|  | Cardiomyopathy         | Mild                 |
|  | Nephropathy            | Minimal              |
|  | Congestion             | Minimal              |
|  | Fatty Change           | Minimal              |
|  | Hepatocellular Adenoma |                      |
|  | Hypertrophy            | Mild                 |
|  | Adenoma                |                      |
|  | Inflammation           | Chronic Active, Mild |
|  | Inflammation           | Acute, Minimal       |
|  | Pigmentation           | Mild                 |
|  | Hyperkeratosis         | Minimal              |
|  | Hyperplasia            | Minimal              |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 67

TRT#: 3

SEX: Male

DAY ON TEST: 658

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105067

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hyperplasia TGLs = 5-4-1 ]

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Adenoma

Follicular Cel

Hyperplasia

Mild

C Cell

Hyperplasia

Minimal

Note: unable to evaluate follicle hypertrophy because of autolysis

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 68

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105068

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Eye	Retina	Atrophy	Mild
* Heart	Pericardium	Necrosis	Moderate
Note: necrosis of epicardial/pericardial fat, large clear fat droplets, multinucleate giant cells, cholesterol clefts, and hemosiderin-laden macrophages, fibrosis [ Necrosis TGLs = 3-22 ]			
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
		Mixed Cell Focus	
Note: clear cell foci on slides 6 and 23 [ Clear Cell Focus TGLs = 6-23 ]			
* Skin		Fibroma	
[ Fibroma TGLs = 1-21 ]			
* Thyroid Gland	Follicular Cel C Cell	Carcinoma Hyperplasia	Mild
[ Carcinoma TGLs = 4-3-1 ]			
Tissue NOS	Fat	Necrosis	Mild
Note: fat necrosis in pericardium/epicardium - large clear fat droplets, cholesterol clefts, multinucleate giant cells, fibrosis, hemosiderin-laden macrophages [ Necrosis TGLs = 2-12 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 69

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105069

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Prostate
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
		Inflammation	Chronic, Minimal
	[ Fatty Change TGLs = 1-6 ]		
* Lung		Alveolar/Bronchiolar Adenoma	
		Infiltration Cellular	Histiocyte, Minimal
	Vein	Mineralization	Minimal
	[ Alveolar/Bronchiolar Adenoma TGLs = 3-2 ]		
* Lymph Node, Mandibular		Ectasia	Minimal
* Nose			
	Note: chronic inflammation, plasma cells and fibrosis, adjacent to tooth		
* Pancreas		Adenoma	
	Note: adenoma on slide 4		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 69

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105069

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Preputial Gland [ Inflammation TGLs = 2-8 ]		Inflammation	Chronic Active, Minimal
* Seminal Vesicle		Inflammation	Acute, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 70

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105070

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
	[ Clear Cell Focus TGLs = 4-23 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-21, 3-22, 3-2 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 71

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105071

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
	[ Fatty Change TGLs = 1-6 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	[ Infiltration Cellular TGLs = 2-21, 3-22, 4-23 ]	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Pituitary Gland	Pars Distalis	Cyst	
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 72

TRT#: 3

SEX: Male

DAY ON TEST: 507

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105072

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                      |                        |
|--------------------------|---------------------------|----------------------|------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | * Bone               | * Bone Marrow          |
| * Brain                  | * Epididymis              | * Esophagus          | * Eye                  |
| * Harderian Gland        | * Intestine Large, Rectum | * Islets, Pancreatic | * Kidney               |
| * Lymph Node, Mandibular | * Mammary Gland           | * Nose               | * Pancreas             |
| * Parathyroid Gland      | * Pituitary Gland         | * Preputial Gland    | * Prostate             |
| * Salivary Glands        | * Seminal Vesicle         | * Skin               | * Stomach, Forestomach |
| * Stomach, Glandular     | * Testes                  | * Trachea            | * Urinary Bladder      |

AUTO PRECLUDES DIAG.

- |                            |                          |                             |                          |
|----------------------------|--------------------------|-----------------------------|--------------------------|
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Thyroid Gland          |                             |                          |

OBSERVATIONS

- |                          |                                                                         |                                  |                     |
|--------------------------|-------------------------------------------------------------------------|----------------------------------|---------------------|
| * Heart                  |                                                                         | Cardiomyopathy                   | Mild                |
| * Liver                  |                                                                         | Fatty Change                     | Minimal             |
|                          | Hepatocyte                                                              | Hypertrophy                      | Mild                |
| * Lung                   |                                                                         | Infiltration Cellular            | Histiocyte, Minimal |
| * Lymph Node, Mesenteric |                                                                         | Hemorrhage                       | Mild                |
|                          | [ Hemorrhage TGLs = 1-5 ]                                               |                                  |                     |
| * Spleen                 |                                                                         | Hematopoietic Cell Proliferation | Minimal             |
| * Thymus                 |                                                                         | Hemorrhage                       | Mild                |
|                          | [ Hemorrhage TGLs = 2-3 ]                                               |                                  |                     |
| Tongue                   |                                                                         | Infiltration Cellular            | Mild                |
|                          | Note: hemorrhage in tongue and larynx, hemorrhage not an option for TGL |                                  |                     |
|                          | [ Infiltration Cellular TGLs = 5-21 ]                                   |                                  |                     |

PRIMARY CAUSE OF DEATH - UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 73

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105073

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Nose			
Note: chronic-active inflammation and fibrosis in bone adjacent to teeth			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 74

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105074

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Testes                 | * Thymus                   | * Trachea                 |                             |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                   |                          |                                                      |                                            |
|-------------------|--------------------------|------------------------------------------------------|--------------------------------------------|
| * Adrenal Cortex  |                          | Hyperplasia                                          | Focal, Minimal                             |
| * Heart           |                          | Cardiomyopathy                                       | Mild                                       |
| * Kidney          | Transit Epithe<br>Pelvis | Hyperplasia<br>Inflammation<br>Nephropathy           | Mild<br>Chronic Active, Minimal<br>Minimal |
| * Liver           |                          | Basophilic Focus<br>Clear Cell Focus<br>Fatty Change | Multiple<br>Multiple<br>Minimal            |
|                   | Hepatocyte               | Hypertrophy<br>Inflammation                          | Mild<br>Chronic Active, Moderate           |
| * Prostate        |                          | Hematopoietic Cell Proliferation                     | Minimal                                    |
| * Spleen          |                          | Hyperplasia                                          | Moderate                                   |
| * Thyroid Gland   | C Cell<br>Follicle       | Hypertrophy                                          | Minimal                                    |
| * Urinary Bladder | Transit Epithe           | Hyperplasia<br>Inflammation                          | Marked<br>Chronic, Mild                    |

[ Hyperplasia TGLs = 1-8-2 ]

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 75

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105075

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Thymus                 | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |                 |                                                                                                                                                                    |                                  |                     |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------|
| * Heart         |                                                                                                                                                                    | Cardiomyopathy                   | Minimal             |
| * Kidney        |                                                                                                                                                                    | Nephropathy                      | Minimal             |
| * Liver         |                                                                                                                                                                    | Basophilic Focus                 | Multiple            |
|                 |                                                                                                                                                                    | Clear Cell Focus                 | Multiple            |
|                 |                                                                                                                                                                    | Fatty Change                     | Mild                |
|                 | Hepatocyte                                                                                                                                                         | Hypertrophy                      | Mild                |
|                 | [ Fatty Change TGLs = 2-6 ]                                                                                                                                        |                                  |                     |
| * Lung          |                                                                                                                                                                    | Infiltration Cellular            | Histiocyte, Minimal |
|                 | [ Infiltration Cellular TGLs = 4-2 ]                                                                                                                               |                                  |                     |
| * Skin          |                                                                                                                                                                    | Hamartoma                        |                     |
|                 | Note: polypoid mass covered by hyperplastic epithelium forming anastomosing rete ridges with hyperplastic sebaceous glands, edema and dilated lymphatics in dermis |                                  |                     |
|                 | [ Hamartoma TGLs = 1-21 ]                                                                                                                                          |                                  |                     |
| * Spleen        |                                                                                                                                                                    | Hematopoietic Cell Proliferation | Minimal             |
| * Thyroid Gland | Follicular Cel                                                                                                                                                     | Carcinoma                        |                     |
|                 | C Cell                                                                                                                                                             | Hyperplasia                      | Minimal             |
|                 | Follicle                                                                                                                                                           | Hypertrophy                      | Minimal             |
|                 | [ Carcinoma TGLs = 3-22 ]                                                                                                                                          |                                  |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 76

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105076

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Nose                   | * Parathyroid Gland        | * Pituitary Gland         | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**INSUFFICIENT TISSUE**

- \* Mammary Gland

**OBSERVATIONS**

- |                          |                                                                                                                                                 |                                  |                     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex         |                                                                                                                                                 | Angiectasis                      | Minimal             |
|                          |                                                                                                                                                 | Hypertrophy                      | Focal, Minimal      |
|                          |                                                                                                                                                 | Vacuolization Cytoplasmic        | Minimal             |
|                          | [ Angiectasis TGLs = 4-10 ]                                                                                                                     |                                  |                     |
| * Heart                  |                                                                                                                                                 | Cardiomyopathy                   | Minimal             |
| * Kidney                 |                                                                                                                                                 | Nephropathy                      | Minimal             |
| * Liver                  |                                                                                                                                                 | Clear Cell Focus                 | Multiple            |
|                          |                                                                                                                                                 | Fatty Change                     | Mild                |
|                          | Bile Duct                                                                                                                                       | Hyperplasia                      | Minimal             |
|                          | Hepatocyte                                                                                                                                      | Hypertrophy                      | Minimal             |
|                          | [ Fatty Change TGLs = 6-6 ]                                                                                                                     |                                  |                     |
| * Lung                   |                                                                                                                                                 | Infiltration Cellular            | Histiocyte, Minimal |
|                          | [ Infiltration Cellular TGLs = 7-22, 8-23, 9-24 ]                                                                                               |                                  |                     |
| * Lymph Node, Mesenteric |                                                                                                                                                 | Hemangiosarcoma                  |                     |
| * Pancreas               |                                                                                                                                                 | Atrophy                          | Minimal             |
|                          | Duct                                                                                                                                            | Cyst                             | Marked              |
|                          | Note: cystic duct lined by simple cuboidal to columnar cells with small ducts within the wall of the cystic duct, pancreas adjacent to the duct |                                  |                     |
|                          | [ Cyst TGLs = 5-21 ]                                                                                                                            |                                  |                     |
| * Spleen                 |                                                                                                                                                 | Hematopoietic Cell Proliferation | Minimal             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 76

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105076

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Testes

Interstit Cell

Adenoma

Mild

Degeneration

[ Adenoma TGLs = 3-7, 2-7 ]

[ Degeneration TGLs = 1-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 77

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105077

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
	[ Clear Cell Focus TGLs = 2-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 78

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105078

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Brain                  | * Esophagus                |
| * Eye                     | * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mesenteric    | * Nose                   | * Pancreas                 |
| * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Glandular       |
| * Thymus                  | * Trachea                   | * Urinary Bladder        |                            |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                          |                                                                                                                                                                                               |                              |                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------|
| * Adrenal Cortex         |                                                                                                                                                                                               | Vacuolization Cytoplasmic    | Minimal             |
| * Bone Marrow            |                                                                                                                                                                                               | Hyperplasia                  | Mild                |
| * Epididymis             |                                                                                                                                                                                               | Mesothelioma Malignant       |                     |
| * Heart                  |                                                                                                                                                                                               | Cardiomyopathy               | Minimal             |
| * Kidney                 |                                                                                                                                                                                               | Nephropathy                  | Minimal             |
| * Liver                  |                                                                                                                                                                                               | Basophilic Focus             | Multiple            |
|                          |                                                                                                                                                                                               | Clear Cell Focus             | Multiple            |
|                          |                                                                                                                                                                                               | Eosinophilic Focus           | Multiple            |
|                          | Hepatocyte                                                                                                                                                                                    | Fatty Change                 | Minimal             |
|                          |                                                                                                                                                                                               | Hypertrophy                  | Mild                |
|                          | Note: eosinophilic foci with cytoplasmic vacuolization on slides 21 and 6<br>[ Eosinophilic Focus TGLs = 2-21 ]                                                                               |                              |                     |
| * Lung                   |                                                                                                                                                                                               | Alveolar/Bronchiolar Adenoma |                     |
|                          | Alveolar Epith                                                                                                                                                                                | Hyperplasia                  | Minimal             |
|                          |                                                                                                                                                                                               | Infiltration Cellular        | Histiocyte, Minimal |
|                          | Note: alveolar epithelial hyperplasia on slides 23 and 24<br>[ Alveolar/Bronchiolar Adenoma TGLs = 5-24 ]<br>[ Hyperplasia TGLs = 4-23 ]<br>[ Infiltration Cellular TGLs = 3-22, 4-23, 5-24 ] |                              |                     |
| * Lymph Node, Mandibular |                                                                                                                                                                                               | Angiectasis                  | Minimal             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 78

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105078

ORGAN AND ACCOUNTABLE SITE STATUS

* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Forestomach	Epithelium	Hyperplasia	Mild
		Inflammation	Acute, Minimal
* Testes		Mesothelioma Malignant	
Note: mesothelioma on capsular surface			
[ Mesothelioma Malignant TGLs = 1-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 79

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105079

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Adrenal Medulla		Pheochromocytoma Complex	
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
		Mixed Cell Focus	
	Hepatocyte	Necrosis	Minimal
Note: neutrophilic infiltrate in site of hepatocellular necrosis			
		[ Clear Cell Focus TGLs = 2-22 ]	
		[ Necrosis TGLs = 2-22 ]	
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Mild
* Lymph Node, Mesenteric		Ectasia	Moderate
		[ Ectasia TGLs = 1-21 ]	
* Preputial Gland	Duct	Ectasia	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 79

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105079

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

---

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 80

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105080

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Cyst	
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 81

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105081

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Seminal Vesicle	* Skin	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

\* Salivary Glands

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
	[ Clear Cell Focus TGLs = 1-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Saliv Glands			
Note: parotid salivary gland missing			
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach	Epithelium	Hyperplasia	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 82

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105082

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Salivary Glands          | * Seminal Vesicle         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Trachea                | * Urinary Bladder          |                           |

**OBSERVATIONS**

- |                                |               |                              |                      |
|--------------------------------|---------------|------------------------------|----------------------|
| * Eye                          |               |                              |                      |
| Note: optic nerve not present  |               |                              |                      |
| * Heart                        |               | Cardiomyopathy               | Minimal              |
| * Kidney                       |               | Nephropathy                  | Minimal              |
| * Liver                        |               | Clear Cell Focus             | Multiple             |
|                                |               | Fatty Change                 | Mild                 |
|                                | Bile Duct     | Hyperplasia                  | Minimal              |
|                                | Hepatocyte    | Hypertrophy                  | Mild                 |
| * Lung                         |               | Alveolar/Bronchiolar Adenoma |                      |
| [ Alveolar/Bronchiolar Adenoma | TGLs = 2-21 ] |                              |                      |
| * Mammary Gland                |               | Pigmentation                 | Hemosiderin, Minimal |
| * Pancreas                     |               | Atrophy                      | Minimal              |
| * Prostate                     |               | Inflammation                 | Chronic Active, Mild |
| * Testes                       |               | Degeneration                 | Moderate             |
| [ Degeneration                 | TGLs = 1-7 ]  |                              |                      |
| * Thyroid Gland                | C Cell        | Hyperplasia                  | Minimal              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 83

TRT#: 3

SEX: Male

DAY ON TEST: 585

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105083

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Parathyroid Gland       |
| * Pituitary Gland           | * Preputial Gland        | * Prostate                 | * Seminal Vesicle         |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                   |                                                                                                                                                             |                                  |                         |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------|
| * Heart           |                                                                                                                                                             | Cardiomyopathy                   | Mild                    |
| * Kidney          | Pelvis                                                                                                                                                      | Inflammation                     | Chronic Active, Minimal |
|                   |                                                                                                                                                             | Nephropathy                      | Minimal                 |
| * Liver           |                                                                                                                                                             | Clear Cell Focus                 | Multiple                |
|                   | Hepatocyte                                                                                                                                                  | Hypertrophy                      | Mild                    |
| * Lung            |                                                                                                                                                             | Infiltration Cellular            | Histiocyte, Minimal     |
|                   | [ Infiltration Cellular TGLs = 5-22 ]                                                                                                                       |                                  |                         |
| * Nose            |                                                                                                                                                             |                                  |                         |
|                   | Note: inflammation in sinuses, plant material within area of inflammation                                                                                   |                                  |                         |
| * Pancreas        |                                                                                                                                                             | Atrophy                          | Minimal                 |
| * Salivary Glands | Parotid GI                                                                                                                                                  | Inflammation                     | Chronic, Minimal        |
| * Skin            |                                                                                                                                                             | Fibrosarcoma                     |                         |
|                   | Note: fibrosarcoma - interlacing bundles spindle-shaped cells with large ovoid vesicular nuclei, minimal collagen between cells, 0-1 mitoses per 400x field |                                  |                         |
|                   | [ Fibrosarcoma TGLs = 1-21 ]                                                                                                                                |                                  |                         |
| * Spleen          |                                                                                                                                                             | Hematopoietic Cell Proliferation | Mild                    |
|                   | [ Hematopoietic Cell Proliferation TGLs = 3-6 ]                                                                                                             |                                  |                         |
| * Testes          |                                                                                                                                                             | Adenoma                          |                         |
|                   | [ Adenoma TGLs = 2-7-2 ]                                                                                                                                    |                                  |                         |
| * Thyroid Gland   | C Cell                                                                                                                                                      | Hyperplasia                      | Mild                    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

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**ANIMAL ID:** 83

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 585

**DOSE:** 3 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105083

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Skin Fibrosarcoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 84

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105084

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle        | * Skin                     | * Spleen                  | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Testes                   | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                   |                               |                  |          |
|-------------------|-------------------------------|------------------|----------|
| * Adrenal Cortex  |                               | Angiectasis      | Minimal  |
| * Heart           |                               | Cardiomyopathy   | Minimal  |
| * Kidney          |                               | Hydronephrosis   | Minimal  |
|                   | [ Hydronephrosis TGLs = 1-5 ] | Nephropathy      | Minimal  |
| * Liver           |                               | Clear Cell Focus | Multiple |
|                   |                               | Fatty Change     | Minimal  |
|                   | Hepatocyte                    | Hypertrophy      | Mild     |
|                   | Mesentery                     | Necrosis         | Minimal  |
|                   | [ Necrosis TGLs = 2-21 ]      |                  |          |
| * Pituitary Gland | Pars Distalis                 | Adenoma          |          |
|                   | [ Adenoma TGLs = 4-1 ]        |                  |          |
| * Thyroid Gland   | C Cell                        | Adenoma          |          |
|                   | C Cell                        | Hyperplasia      | Mild     |
|                   | Follicle                      | Hypertrophy      | Minimal  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 85

TRT#: 3

SEX: Male

DAY ON TEST: 465

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105085

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Kidney		Nephropathy	Minimal
* Liver	Hepatocyte	Hypertrophy	Mild
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mediastinal	Pigmentation	Hemosiderin, Mild
	[ Hemorrhage TGLs = 3-3 ]		
	[ Pigmentation TGLs = 3-3 ]		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thymus		Atrophy	Marked
* Thyroid Gland	Follicle	Hypertrophy	Minimal
Tissue NOS		Schwannoma Malignant	
	[ Schwannoma Malignant TGLs = 1-21, 1-21-1 ]		

PRIMARY CAUSE OF DEATH - Tissue NOS Schwannoma Malignant



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 86

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105086

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Galactocele	Mild
	[ Galactocele TGLs = 1-8-1 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 87

TRT#: 3

SEX: Male

DAY ON TEST: 485

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105087

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	Peripheral Nerve	* Preputial Gland
* Seminal Vesicle	* Skin	Spinal Cord	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Brain		Compression	Mild
[ Compression TGLs = 3-1 ]			
* Heart		Cardiomyopathy	Minimal
* Liver		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Mild
Note: difficult to evaluate hypertrophy because of the severe vacuolization			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLs = 2-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
Note: vacuolated and eosinophilic neoplastic cells with cellular atypia (giant cells)			
[ Adenoma TGLs = 1-22 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Marked
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Erosion	Minimal
		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal
[ Erosion TGLs = 5-4-1 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 87

TRT#: 3

SEX: Male

DAY ON TEST: 485

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105087

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hyperkeratosis TGLs = 5-4-1 ]

[ Hyperplasia TGLs = 5-4-1 ]

[ Inflammation TGLs = 5-4-1 ]

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 88

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105088

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

MISSING

\* Thymus

OBSERVATIONS

* Kidney		Hydronephrosis	Minimal
	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lung		Schwannoma Malignant	Metastatic (Skin)
	Note: central necrosis within metastatic neoplasm in the lung		
* Lymph Node, Mandibular		Lymphoma Malignant	
	Note: pericapsular lymphocytic infiltrates and lymphocytic infiltrates in adipose tissue adjacent to lymph node		
	Note: numerous small lymphocytes peripheral to one lymph node and in a perivascular location in the adjacent adipose tissue		
	Note: the mandibular lymph node does not appear to be directly affected, but lymphosarcoma was diagnosed as a precaution		
* Lymph Node, Mesenteric		Hemangiosarcoma	
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Submandibul GI	Inflammation	Chronic, Minimal
	[ Atrophy TGLs = 4-8 ]		
* Skin		Schwannoma Malignant	
	Note: sheets of spindle-shaped cells with ovoid nuclei and indistinct cytoplasmic borders, minimal to no collagen in stroma, cystic spaces in neoplasm		
	Note: frequent mitoses in some regions of the neoplasm - up to 10 mitoses per 400x field		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 88

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105088

ORGAN AND ACCOUNTABLE SITE STATUS

* Spleen	[ Schwannoma Malignant TGLs = 1-21 ]	Hematopoietic Cell Proliferation	Mild
* Testes	[ Hematopoietic Cell Proliferation TGLs = 3-6 ]	Degeneration	Marked
* Thyroid Gland	[ Degeneration TGLs = 2-7 ]	C Cell Hyperplasia	Mild
		Follicle Hypertrophy	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 89

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105089

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Brain		Compression	Minimal
	[ Compression TGLs = 6-1 ]		
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
	[ Nephropathy TGLs = 2-5 ]		
* Liver		Clear Cell Focus	Multiple
		Hepatodiaphragmatic Nodule	
	Hepatocyte	Hypertrophy	Mild
	[ Hepatodiaphragmatic Nodule TGLs = 8-24 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 9-25 ]		
* Lymph Node, Mandibular		Hemorrhage	Mild
	[ Hemorrhage TGLs = 3-8 ]		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
Mesentery	Fat	Necrosis	Mild
	Note: cyst present within adipose tissue for slide 23		
	[ Necrosis TGLs = 1-21, 5-23 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 7-1 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 89

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105089

ORGAN AND ACCOUNTABLE SITE STATUS

* Prostate		Inflammation	Chronic Active, Minimal
* Skin		Cyst Epithelial Inclusion	
	[ Cyst Epithelial Inclusion TGLs = 4-22 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 90

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105090

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Pituitary Gland        | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Trachea                | * Urinary Bladder          |                           |

OBSERVATIONS

- |                     |                                  |                                  |                         |
|---------------------|----------------------------------|----------------------------------|-------------------------|
| * Heart             |                                  | Cardiomyopathy                   | Mild                    |
| * Kidney            | Pelvis                           | Inflammation                     | Chronic Active, Minimal |
|                     |                                  | Nephropathy                      | Minimal                 |
| * Liver             |                                  | Clear Cell Focus                 | Multiple                |
|                     |                                  | Congestion                       | Minimal                 |
|                     |                                  | Fatty Change                     | Minimal                 |
|                     | Bile Duct                        | Hyperplasia                      | Minimal                 |
|                     | Hepatocyte                       | Hypertrophy                      | Mild                    |
|                     | [ Clear Cell Focus TGLs = 3-23 ] |                                  |                         |
|                     | [ Congestion TGLs = 2-22 ]       |                                  |                         |
| * Lung              |                                  | Infiltration Cellular            | Histiocyte, Minimal     |
| * Parathyroid Gland |                                  | Cyst                             | Minimal                 |
| * Skin              |                                  | Hemangiosarcoma                  |                         |
|                     | [ Hemangiosarcoma TGLs = 7-24 ]  |                                  |                         |
| * Spleen            |                                  | Hematopoietic Cell Proliferation | Minimal                 |
| * Testes            |                                  | Degeneration                     | Mild                    |
|                     | [ Degeneration TGLs = 4-7 ]      |                                  |                         |
| * Thyroid Gland     | Follicular Cel                   | Adenoma                          |                         |
|                     | C Cell                           | Hyperplasia                      | Mild                    |
|                     | Follicle                         | Hypertrophy                      | Minimal                 |
|                     | [ Adenoma TGLs = 6-3-1 ]         |                                  |                         |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 91

TRT#: 3

SEX: Male

DAY ON TEST: 592

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105091

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
	Note: macrovesicular and microvesicular [ Fatty Change TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroma	
	[ Fibroma TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 92

TRT#: 3

SEX: Male

DAY ON TEST: 301

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105092

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Eye	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Seminal Vesicle	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Moderate
		Vacuolization Cytoplasmic	Moderate
	[ Angiectasis TGLs = 3-10 ]		
* Brain		Compression	Mild
	[ Compression TGLs = 9-1 ]		
* Esophagus		Hyperkeratosis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	Note: protein casts, renal tubular hyperplasia, pigmentation		
	[ Hydronephrosis TGLs = 4-5 ]		
* Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
	Note: macrovesicular and microvesicular vacuolization, primarily macrovesicular		
	[ Fatty Change TGLs = 5-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland		Ganglioneuroma	
	[ Ganglioneuroma TGLs = 7-1-1 ]		
* Salivary Glands	Duct, Parotid GI	Cyst	Mild
	Parotid GI	Vacuolization Cytoplasmic	Minimal
	Note: dilatation of multiple ducts, a few neutrophils within dilated ducts		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 92

TRT#: 3

SEX: Male

DAY ON TEST: 301

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105092

ORGAN AND ACCOUNTABLE SITE STATUS

* Skin Note: skin of head		Inflammation	Acute, Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Minimal
		Inflammation	Acute, Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland Note: ultimobranchial cyst		Cyst	

PRIMARY CAUSE OF DEATH - Pituitary Gland Ganglioneuroma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 93

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105093

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Brain                  |
| * Epididymis               | * Esophagus               | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Pituitary Gland          | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                                                                                               |                             |                                  |          |
|-----------------------------------------------------------------------------------------------|-----------------------------|----------------------------------|----------|
| * Adrenal Cortex                                                                              |                             | Angiectasis                      | Minimal  |
| * Eye                                                                                         | Retina                      | Atrophy                          | Mild     |
| * Heart                                                                                       |                             | Cardiomyopathy                   | Minimal  |
| * Kidney                                                                                      |                             | Nephropathy                      | Minimal  |
| * Liver                                                                                       |                             | Clear Cell Focus                 | Multiple |
|                                                                                               |                             | Fatty Change                     | Mild     |
|                                                                                               | Hepatocyte                  | Hypertrophy                      | Mild     |
| Note: TGL 4 may correspond to a vacuolated (clear cell) focus<br>[ Fatty Change TGLs = 4-22 ] |                             |                                  |          |
| * Skin                                                                                        |                             | Fibroma                          |          |
|                                                                                               | [ Fibroma TGLs = 1-21 ]     |                                  |          |
| * Spleen                                                                                      |                             | Hematopoietic Cell Proliferation | Minimal  |
| * Testes                                                                                      |                             | Degeneration                     | Marked   |
|                                                                                               | [ Degeneration TGLs = 2-7 ] |                                  |          |
| * Thyroid Gland                                                                               | C Cell                      | Hyperplasia                      | Mild     |
|                                                                                               | Follicular Cel              | Hyperplasia                      | Mild     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 94

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105094

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Epididymis			
Note: sparse sperm in tubules			
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
[ Fatty Change TGLs = 1-6 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Seminal Vesicle		Inflammation	Chronic Active, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes		Degeneration	Moderate
	Interstit Cell	Hyperplasia	Multifocal, Minimal
[ Degeneration TGLs = 3-7 ]			
[ Hyperplasia TGLs = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

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**ANIMAL ID:** 94

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105094

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 95

TRT#: 3

SEX: Male

DAY ON TEST: 549

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105095

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Islets, Pancreatic	* Nose	* Parathyroid Gland
* Seminal Vesicle	* Skin	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla		Infiltration Cellular	Eosinophil, Moderate
* Bone Marrow		Lymphoma Malignant	
* Epididymis	Bilateral	Granuloma Sperm	Mild
	[ Granuloma Sperm TGLs = 5-29 ]		
* Intestine Large, Cecum		Inflammation	Chronic, Mild
	Note: plasmacytic infiltrate admixed with a few eosinophils in the submucosa, tunica muscularis, and serosa		
* Intestine Large, Colon		Inflammation	Chronic, Minimal
* Intestine Small, Jejunum		Lymphoma Malignant	
		Ulcer	Mild
	Note: sarcoma in the mucosa, submucosa and muscularis, focal ulceration with granulation tissue underlying ulcer, inflammation in wall of intestine		
	Note: granulation tissue, chronic active inflammation and dense collagen bundles in intestinal wall beneath ulcer		
	[ Lymphoma Malignant TGLs = 15-22 ]		
	[ Ulcer TGLs = 15-22 ]		
* Kidney		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 10-5 ]		
* Liver		Lymphoma Malignant	
	Note: central necrosis in some neoplastic foci, neoplastic foci along sinusoids and blood vessels, neutrophilic inflammation, coagulative necrosis of hepatocytes		
	Note: multiple neoplastic foci in the liver consisting of round to fusiform cells with abundant cytoplasm, anisokaryotic nuclei and indistinct cytoplasmic borders		
	[ Lymphoma Malignant TGLs = 20-6 ]		
* Lung		Lymphoma Malignant	
	Note: perivascular and peribronchiolar distribution of neoplasm, erythrophagocytosis and neutrophilic inflammation present in neoplasm,		
	[ Lymphoma Malignant TGLs = 18-27 ]		
Lymph Node	Renal	Lymphoma Malignant	
	Pancreatic	Lymphoma Malignant	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 95

TRT#: 3

SEX: Male

DAY ON TEST: 549

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105095

ORGAN AND ACCOUNTABLE SITE STATUS

	Mediastinal	Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 12-21 ]		
	[ Lymphoma Malignant TGLs = 8-25 ]		
	[ Lymphoma Malignant TGLs = 17-3 ]		
* Lymph Node, Mandibular		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 9-8 ]		
* Lymph Node, Mesenteric		Lymphoma Malignant	
Note: chronic active inflammation in mesentery adjacent to lymph node			
	[ Lymphoma Malignant TGLs = 13-26 ]		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pancreas		Atrophy	Minimal
		Inflammation	Acute, Minimal
Note: dilated ducts lined by squamous to low cuboidal epithelium , ducts were encircled by fibrous connective tissue			
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
Note: cyst lined by ciliated cuboidal epithelium to low columnar epithelium in distalis and cyst lined by cuboidal epithelium in intermedia			
* Preputial Gland	Duct	Ectasia	Mild
		Inflammation	Chronic, Minimal
	[ Ectasia TGLs = 3-8 ]		
	[ Inflammation TGLs = 4-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Lymphoma Malignant	
	[ Lymphoma Malignant TGLs = 11-24 ]		
* Stomach, Forestomach		Inflammation	Chronic, Minimal
* Stomach, Glandular		Fibrosis	Mild
		Inflammation	Multifocal, Chronic, Mild
Note: predominantly plasma cells admixed with lesser numbers of neutrophils, dilated glands in submucosa			
Note: area of fibrosis was trichrome positive			
Note: homogeneous, hypereosinophilic acellular material in submucosa, Congo-red positive and trichrome negative, not birefringent, so amyloid was not diagnosed			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 95

TRT#: 3

SEX: Male

DAY ON TEST: 549

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105095

ORGAN AND ACCOUNTABLE SITE STATUS

[ Inflammation TGLs = 19-28 ]

\* Testes

Degeneration

Marked

Note: seminiferous tubules consist solely of Sertoli cells, no spermatogonia present

[ Degeneration TGLs = 6-7 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Liver Lymphoma Malignant

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 96

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105096

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Islets, Pancreatic		Adenoma	
[ Adenoma TGLs = 1-21 ]			
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Nose			
Note: bilateral mixed inflammatory infiltrate consisting of plasma cells and neutrophils adjacent to teeth and gingiva			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin		Cyst Epithelial Inclusion	
[ Cyst Epithelial Inclusion TGLs = 2-22 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 97

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105097

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Preputial Gland          | * Prostate                |
| * Salivary Glands           | * Seminal Vesicle        | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Testes                    | * Thymus                 | * Trachea                  | * Urinary Bladder         |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                                                        |               |                                  |                     |
|--------------------------------------------------------|---------------|----------------------------------|---------------------|
| * Heart                                                |               | Cardiomyopathy                   | Mild                |
| * Liver                                                |               | Basophilic Focus                 | Multiple            |
|                                                        |               | Clear Cell Focus                 | Multiple            |
|                                                        |               | Fatty Change                     | Minimal             |
|                                                        | Hepatocyte    | Hypertrophy                      | Mild                |
| * Lung                                                 |               | Infiltration Cellular            | Histiocyte, Minimal |
| * Nose                                                 |               |                                  |                     |
| Note: neutrophilic inflammation in tooth region        |               |                                  |                     |
| * Pituitary Gland                                      | Pars Intermed | Adenoma                          |                     |
| Note: focus of neuronal-like and large polygonal cells |               |                                  |                     |
| * Skin                                                 |               | Fibroma                          |                     |
| [ Fibroma TGLs = 1-21 ]                                |               |                                  |                     |
| * Spleen                                               |               | Hematopoietic Cell Proliferation | Minimal             |
| * Thyroid Gland                                        | C Cell        | Hyperplasia                      | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 98

TRT#: 3

SEX: Male

DAY ON TEST: 702

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105098

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Epididymis	* Esophagus
* Harderian Gland	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach
* Testes	* Urinary Bladder		

**MISSING**

\* Pituitary Gland

**AUTO PRECLUDES DIAG.**

* Bone Marrow	* Eye	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Kidney	* Pancreas	* Seminal Vesicle	* Spleen
* Stomach, Glandular	* Thyroid Gland	* Trachea	

**OBSERVATIONS**

* Adrenal Cortex	Vacuolization Cytoplasmic	Minimal
* Brain	Histiocytic Sarcoma	
Note: histiocytic sarcoma in forebrain and hippocampal region , necrosis within neoplasm		
Note: neoplasm extends to ventricle, neoplastic cells in perivascular and perineuronal distribution pattern		
Note: poorly defined mass consisting of sheets of round to polygonal cells with moderate amounts of cytoplasm and round nuclei within cerebral neuropil		
* Heart	Cardiomyopathy	Minimal
* Liver	Fatty Change	Minimal
	Histiocytic Sarcoma	
Note: liver partially effaced by round to polygonal to spindle-shaped cells arranged in sheets and expanding sinusoid, multifocal necrosis in neoplasm		
[ Histiocytic Sarcoma TGLs = 1-6, 2-6, 3-6 ]		
* Lung	Histiocytic Sarcoma	
Note: round neoplastic cells within lumen of blood vessels, hemorrhage and hematoidin in alveoli		
[ Histiocytic Sarcoma TGLs = 5-2 ]		
Lymph Node	Mediastinal	Congestion
		Moderate
[ Congestion TGLs = 4-22 ]		
* Mammary Gland	Pigmentation	Hemosiderin, Minimal
* Preputial Gland	Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 98

TRT#: 3

SEX: Male

DAY ON TEST: 702

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105098

ORGAN AND ACCOUNTABLE SITE STATUS

\* Prostate Inflammation Chronic Active, Minimal  
\* Skin Histiocytic Sarcoma  
Note: focus of spindle-shaped cells skin in subcutis, ulcerated , chronic -active inflammation (neutrophils, plasma cells) adjacent to neoplasm  
[ Histiocytic Sarcoma TGLs = 6-21 ]  
\* Testes  
Note: multinucleate syncytia within seminiferous tubules  
\* Thymus Atrophy Moderate

PRIMARY CAUSE OF DEATH - Liver Histiocytic Sarcoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 99

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105099

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Hydronephrosis	Minimal
	[ Hydronephrosis TGLs = 3-5 ]		
* Liver		Clear Cell Focus	
	Hepatocyte	Hypertrophy	Mild
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Prostate	Epithelium	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
* Skin		Fibrosis	Mild
	Epidermis	Hyperplasia	Mild
	Note: TGL 1 -immature fibroblasts in a collagenous stroma admixed with eosinophils in subcutis		
	[ Fibrosis TGLs = 2-22, 1-21, 1-21-1 ]		
	[ Hyperplasia TGLs = 2-22 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate
* Trachea			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 99

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105099

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: dilated mucosal glands contain eosinophilic secretions

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 100

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105100

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
		Nephropathy	Minimal
		Note: neutrophils in lumen of renal pelvis, lymphocytes and plasma cells adjacent to hyperplastic transitional epithelium	
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
Lymph Node	Mediastinal	Hemorrhage	Minimal
			[ Hemorrhage TGLs = 2-3 ]
* Pituitary Gland	Pars Distalis	Adenoma	
			[ Adenoma TGLs = 4-1 ]
* Prostate		Inflammation	Chronic Active, Mild
* Skin		Basal Cell Adenoma	
		Hyperkeratosis	Mild
	Epidermis	Hyperplasia	Mild
		Inflammation	Chronic Active, Moderate
		Ulcer	Mild

Note: cystic mass in dermis and subcutis consisting primarily of a uniform population of basal cells with evidence of hair follicle formation  
 [ Basal Cell Adenoma TGLs = 3-22 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 100

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105100

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperkeratosis TGLs = 1-21 ]

[ Hyperplasia TGLs = 1-21 ]

[ Inflammation TGLs = 1-21 ]

[ Ulcer TGLs = 1-21 ]

\* Spleen

Hematopoietic Cell Proliferation

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 101

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105101

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Minimal
		Mixed Cell Focus	Multiple
Note: multiple large clear cell foci (vacuolated foci) consisting of enlarged hepatocytes with microvesicular and macrovesicular vacuolization of hepatocytes [ Clear Cell Focus TGLs = 1-21 ] [ Fatty Change TGLs = 2-6 ]			
* Lymph Node, Mandibular		Ectasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial GI			
Note: only a small portion of second preputial gland present			
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 102

TRT#: 3

SEX: Male

DAY ON TEST: 3

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105102

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Islets, Pancreatic	* Liver
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Prostate
* Salivary Glands	Skeletal Muscle	* Skin	* Stomach, Forestomach
* Testes	* Thymus		

**MISSING**

* Adrenal Medulla	* Intestine Small, Jejunum	* Seminal Vesicle
-------------------	----------------------------	-------------------

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Ileum
* Kidney	* Spleen	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Lung	Inflammation	Acute, Minimal
* Preputial Gland	Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH - UNCERTAIN

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 103

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105103

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Mammary Gland             | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Preputial Gland           | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         |

OBSERVATIONS

- |                                    |                                       |                        |                     |
|------------------------------------|---------------------------------------|------------------------|---------------------|
| * Adren Cortex                     |                                       |                        |                     |
| Note: only one adrenal present     |                                       |                        |                     |
| * Heart                            |                                       | Cardiomyopathy         | Minimal             |
| * Kidney                           |                                       | Lymphoma Malignant     |                     |
|                                    |                                       | Nephropathy            | Mild                |
| * Liver                            |                                       | Basophilic Focus       | Multiple            |
|                                    |                                       | Clear Cell Focus       | Multiple            |
|                                    |                                       | Hepatocellular Adenoma |                     |
|                                    | Hepatocyte                            | Hypertrophy            | Minimal             |
|                                    |                                       | Inflammation           | Chronic, Minimal    |
| * Lung                             |                                       | Infiltration Cellular  | Histiocyte, Minimal |
|                                    | [ Infiltration Cellular TGLs = 8-23 ] |                        |                     |
| Lymph Node                         | Renal                                 | Ectasia                | Moderate            |
|                                    |                                       | Ectasia                | Mild                |
|                                    | Mediastinal                           | Lymphoma Malignant     |                     |
| Note: ectasia of medullary sinuses |                                       |                        |                     |
|                                    | [ Ectasia TGLs = 4-21 ]               |                        |                     |
|                                    | [ Ectasia TGLs = 2-10 ]               |                        |                     |
|                                    | [ Lymphoma Malignant TGLs = 6-24 ]    |                        |                     |
| * Lymph Node, Mandibular           |                                       | Ectasia                | Mild                |
| * Lymph Node, Mesenteric           |                                       | Ectasia                | Mild                |
| * Nose                             | Respirat Epith                        | Adenoma                |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 103

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105103

ORGAN AND ACCOUNTABLE SITE STATUS

* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes	Interstit Cell	Adenoma	
		Degeneration	Moderate
	[ Adenoma TGLs = 1-7 ]		
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 5-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Moderate

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 104

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105104

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
	Note: some clear cell foci consist of hepatocytes with macrovesicular or microvesicular cytoplasmic vacuolization (vacuolated foci) [ Clear Cell Focus TGLs = 2-22, 2-6 ]		
* Nose			
	Note: chronic active inflammation adjacent to tooth		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin		Cyst Epithelial Inclusion	
	[ Cyst Epithelial Inclusion TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 105

TRT#: 3

SEX: Male

DAY ON TEST: 260

DOSE: 3 MG/KG

DISP: Dosing Accident

HISTO: 110520105105

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Kidney	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

AUTO PRECLUDES DIAG.

* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Adren Cortex			
Note: post-mortem emphysema or cystic degeneration present in adrenal gland			
* Esophagus	Muscularis	Degeneration	Mild
	Muscularis	Hemorrhage	Mild
	[ Degeneration TGLs = 4-21, 5-21 ]		
	[ Hemorrhage TGLs = 4-21, 5-21 ]		
* Kidney			
Note: dilatation of capillaries within glomeruli - postmortem change or air/fat emboli			
Mesentery		Hemorrhage	Mild
Note: The TGL tissue corresponds to mediastinum (adipose tissue) with hemorrhage, not mesentery. Mediastinum was not a tissue option.			
	[ Hemorrhage TGLs = 6-22 ]		

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 106

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105106

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
[ Fatty Change TGLs = 4-6 ]			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 2-21 ]			
* Parathyroid Gland		Cyst	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial Gland		Inflammation	Chronic, Minimal
[ Inflammation TGLs = 3-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Testes		Degeneration	Mild
[ Degeneration TGLs = 1-7 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 107

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105107

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lung
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
[ Clear Cell Focus TGLs = 2-6 ]			
* Lymph Node, Mandibular		Ectasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Minimal
Note: TGL 1 deformity corresponds to a slight depression in capsular surface of spleen			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 108

TRT#: 3

SEX: Male

DAY ON TEST: 588

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105108

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Islets, Pancreatic	* Lymph Node, Mandibular	* Nose	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
Skeletal Muscle	* Skin	* Stomach, Forestomach	* Testes
* Urinary Bladder			

AUTO PRECLUDES DIAG.

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Kidney
* Pancreas	* Seminal Vesicle	* Spleen	* Stomach, Glandular
* Thyroid Gland	* Trachea		

OBSERVATIONS

* Bone Marrow		Histiocytic Sarcoma	
* Liver		Histiocytic Sarcoma	
Note: numerous round cells with moderate amounts of cytoplasm in widely distended sinusoids, scattered foci of hepatocellular necrosis and atrophic hepatocytes [ Histiocytic Sarcoma TGLs = 1-6,2-6 ]			
* Lung		Histiocytic Sarcoma	
Note: scattered macrophages and rare multinucleate giant cells in alveoli [ Histiocytic Sarcoma TGLs = 3-2, 3-27 ]			
Lymph Node	Axillary	Histiocytic Sarcoma	
	Renal	Histiocytic Sarcoma	
	Iliac	Histiocytic Sarcoma	
Note: lymph nodes totally effaced by neoplastic population of cells with extension of the neoplastic cells external to the capsule [ Histiocytic Sarcoma TGLs = 5-21 ] [ Histiocytic Sarcoma TGLs = 6-22 ] [ Histiocytic Sarcoma TGLs = 7-23 ]			
* Lymph Node, Mesenteric		Histiocytic Sarcoma	
[ Histiocytic Sarcoma TGLs = 4-26 ]			
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 108

TRT#: 3

SEX: Male

DAY ON TEST: 588

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105108

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tissue NOS

Note: popliteal lymph node and skeletal muscle

[ Histiocytic Sarcoma TGLs = 8-24 ]

Hemorrhage

Moderate

Histiocytic Sarcoma

---

PRIMARY CAUSE OF DEATH

- Liver Histiocytic Sarcoma

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 109

TRT#: 3

SEX: Male

DAY ON TEST: 647

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105109

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Rectum
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**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Brain		Compression	Mild
[ Compression TGLs = 1-1 ]			
* Kidney		Nephropathy	Moderate
* Liver		Congestion	Minimal
		Fatty Change	Minimal
[ Congestion TGLs = 5-23 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Nose			
Note: acute inflammation in gingiva adjacent to tooth			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Skin		Hyperkeratosis	Mild
	Epidermis	Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal

Note: serocellular crust with bacteria on surface of focus of epidermal hyperplasia, fibrosis in underlying dermis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 109

TRT#: 3

SEX: Male

DAY ON TEST: 647

DOSE: 3 MG/KG

DISP: Natural Death

HISTO: 110520105109

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hyperkeratosis TGLs = 3-21 ]

[ Hyperplasia TGLs = 3-21 ]

[ Inflammation TGLs = 3-21 ]

\* Spleen

Hematopoietic Cell Proliferation

Mild

\* Thyroid Gland

Follicular Cel

Adenoma

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 110

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105110

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Heart	Endocardium	Hyperplasia	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lym Node Mesen			
Note: potential hemangioma on one edge			
* Lymph Node, Mandibular		Ectasia	Mild
* Pancreas		Hyperplasia	Minimal
Note: multifocal hyperplasia			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Skin		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 1-21 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 111

TRT#: 5

SEX: Male

DAY ON TEST: 595

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105111

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Parathyroid Gland
Peripheral Nerve	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	Skeletal Muscle	* Skin
Spinal Cord	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLs = 1-23 ]			
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 6-24 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLs = 3-21 ]			
* Pancreas		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 112

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105112

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Seminal Vesicle	* Spleen
* Stomach, Glandular	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Moderate
		Lymphoma Malignant	
Note: neoplastic lymphocytes within dilated blood vessels			
* Bone Marrow		Lymphoma Malignant	
* Heart		Cardiomyopathy	Minimal
* Intestine Large, Cecum		Lymphoma Malignant	
Note: transmural infiltrate of neoplastic lymphocytes			
[ Lymphoma Malignant TGLs = 7-4 ]			
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Inguinal	Lymphoma Malignant	
[ Lymphoma Malignant TGLs = 9-8-1 ]			
* Lymph Node, Mandibular		Lymphoma Malignant	
[ Lymphoma Malignant TGLs = 8-8 ]			
* Lymph Node, Mesenteric		Ectasia	Minimal
		Lymphoma Malignant	
[ Lymphoma Malignant TGLs = 6-5 ]			
* Mammary Gland		Fibroadenoma	
Note: acini not observed but fibroadenoma appears more likely than fibroma, mononuclear infiltrate present at periphery of neoplasm			
[ Fibroadenoma TGLs = 1-21 ]			
Mesentery		Lymphoma Malignant	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 112

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105112

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: corresponds to mediastinal mass, mediastinum was not a tissue choice

[ Lymphoma Malignant TGLs = 2-22 ]

\* Nose

Note: neoplastic lymphocytes subjacent to palate - slide 9-1

\* Prostate

Mineralization

Minimal

\* Salivary Glands

Parotid GI

Inflammation

Chronic, Minimal

Parotid GI

Lymphoma Malignant

\* Skin

Lymphoma Malignant

Note: tail skin also has extensive chronic active inflammation, including fibrosis, and granulomatous inflammation in the dermis and subcutis

Note: neoplastic lymphocytes in epidermis and dermis of tail skin and abdominal skin, tail skin ulcerated with serocellular crust and intralesional bacteria

[ Lymphoma Malignant TGLs = 4-23 ]

\* Stomach, Forestomach

Lymphoma Malignant

[ Lymphoma Malignant TGLs = 10-4-1 ]

\* Testes

Degeneration

Moderate

[ Degeneration TGLs = 5-7 ]

\* Thymus

Lymphoma Malignant

Note: sheets of a relatively uniform population of small lymphocytes effacing the thymus, lymphoma also present in mediastinal lymph node

[ Lymphoma Malignant TGLs = 3-3 ]

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 113

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105113

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
	[ Hypertrophy TGLs = 4-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 1-21 ]		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Testes		Degeneration	Mild
	[ Degeneration TGLs = 2-7, 3-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 114

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105114

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
		Hyperplasia	Nodular, Mild
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Clear Cell Focus TGLs = 2-6 ]		
	[ Hyperplasia TGLs = 2-6 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	[ Hyperplasia TGLs = 6-2 ]		
Mesentery	Fat	Necrosis	Minimal
	[ Necrosis TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Skin		Inflammation	Granulomatous, Moderate
	Pinna	Squamous Cell Papilloma	

Note: focal inflammation consists of focus with fibrosis, multinucleate giant cells, mineralization and keratin - may be inflamed neoplasm or epithelial inclusion

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 114

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105114

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Inflammation TGLs = 3-22 ]

[ Squamous Cell Papilloma TGLs = 4-23 ]

\* Spleen

Hematopoietic Cell Proliferation

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 115

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105115

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mesenteric    |
| * Mammary Gland          | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Preputial Gland          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |                          |                                       |                           |                         |
|--------------------------|---------------------------------------|---------------------------|-------------------------|
| * Adrenal Cortex         |                                       | Hypertrophy               | Focal, Minimal          |
|                          |                                       | Vacuolization Cytoplasmic | Minimal                 |
| * Heart                  |                                       | Cardiomyopathy            | Mild                    |
| * Kidney                 |                                       | Nephropathy               | Minimal                 |
| * Liver                  |                                       | Basophilic Focus          | Multiple                |
|                          |                                       | Clear Cell Focus          | Multiple                |
|                          |                                       | Fatty Change              | Mild                    |
|                          | Hepatocyte                            | Hypertrophy               | Moderate                |
|                          | [ Hypertrophy TGLs = 1-6 ]            |                           |                         |
| * Lung                   |                                       | Infiltration Cellular     | Histiocyte, Minimal     |
| * Lymph Node, Mandibular |                                       | Ectasia                   | Minimal                 |
| Mesentery                | Fat                                   | Necrosis                  | Mild                    |
|                          | [ Necrosis TGLs = 5-21 ]              |                           |                         |
| * Prostate               |                                       | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands        | Parotid GI                            | Vacuolization Cytoplasmic | Minimal                 |
| * Testes                 |                                       | Degeneration              | Mild                    |
| Note: interstitial edema |                                       |                           |                         |
|                          | [ Degeneration TGLs = 2-7, 3-7, 4-7 ] |                           |                         |
| * Thymus                 |                                       | Atrophy                   | Minimal                 |
| * Thyroid Gland          | C Cell                                | Hyperplasia               | Minimal                 |
|                          | Follicle                              | Hypertrophy               | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 116

TRT#: 5

SEX: Male

DAY ON TEST: 592

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105116

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 4-1 ]			
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
* Liver		Cholangiofibrosis	Mild
		Fatty Change	Moderate
		Hyperplasia	Nodular, Mild
	Hepatocyte	Hypertrophy	Marked
[ Fatty Change TGLs = 1-6 ]			
* Lymph Node, Mandibular		Ectasia	Mild
* Nose			
Note: chronic inflammation adjacent to teeth			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 5-1 ]			
* Prostate		Inflammation	Chronic Active, Mild
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Parotid GI	Vacuolization Cytoplasmic	Moderate
Skeletal Muscle		Inflammation	Chronic Active, Mild
Note: intralesional coccoid bacteria			
[ Inflammation TGLs = 2-21 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 116

TRT#: 5

SEX: Male

DAY ON TEST: 592

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105116

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Mild
		Ulcer	Mild
	[ Hyperkeratosis TGLs = 7-4-1, 9-24 ]		
	[ Hyperplasia TGLs = 7-4-1, 7-22, 9-24 ]		
	[ Inflammation TGLs = 7-22, 9-24 ]		
	[ Ulcer TGLs = 7-22, 9-24 ]		
* Thymus		Atrophy	Marked
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild
Tissue NOS		Fibrosis	Mild
Note: liver adhered to mesentery of forestomach, focal area of bile duct hyperplasia adjacent to liver, chronic inflammation in mesentery			
	[ Fibrosis TGLs = 8-23 ]		

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 117

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105117

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Mild
* Intestine Small, Ileum	Peyers Patch	Hyperplasia	Mild
[ Hyperplasia TGLs = 5-4 ]			
* Intestine Small, Jejunum	Peyers Patch	Hyperplasia	Minimal
[ Hyperplasia TGLs = 4-3 ]			
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
[ Clear Cell Focus TGLs = 1-6 ]			
* Lung		Osteosarcoma	Metastatic (Lung)
Note: metastatic osteosarcoma suspected - multiple foci of centrally located osteoid and mineralization rimmed by plump polygonal cells suggestive of osteoblasts			
Note: some metastases appear to be present within blood vessels (tumor emboli), the site of origin of the osteosarcoma was not determined, 1-2 mitoses per 400x field			
[ Osteosarcoma TGLs = 6-22, 7-2 ]			
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland		Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Minimal
Note: finely vacuolated adipocytes and a small focus of cells resembling the adrenal medullary cells, numerous nerves in adjacent adipose tissues			
[ Necrosis TGLs = 3-21 ]			
* Pituitary Gland	Pars Intermed	Cyst	
	Pars Distalis	Hyperplasia	Focal, Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 117

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105117

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Prostate

Adenoma

Inflammation

Chronic Active, Minimal

[ Adenoma TGLs = 2-7-1 ]

\* Spleen

Hematopoietic Cell Proliferation

Minimal

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 118

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105118

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
* Lung	Hepatocyte	Hypertrophy	Moderate
* Nose		Infiltration Cellular	Histiocyte, Minimal
Note: inflammation in site of tooth			
* Pituitary Gland	Pars Distalis	Adenoma	Multiple
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Duct, Parotid GI	Cyst	Minimal
Note: periductular fibrosis of cystic duct			
* Testes		Degeneration	Marked
[ Degeneration TGLs = 1-7 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 119

TRT#: 5

SEX: Male

DAY ON TEST: 602

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105119

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| Peripheral Nerve           | * Seminal Vesicle         | Skeletal Muscle             | * Skin                   |
| Spinal Cord                | * Stomach, Glandular      | * Testes                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

OBSERVATIONS

- |                        |                                      |                           |                         |
|------------------------|--------------------------------------|---------------------------|-------------------------|
| * Adrenal Cortex       |                                      | Angiectasis               | Minimal                 |
| * Brain                |                                      | Compression               | Moderate                |
|                        | [ Compression TGLs = 6-1 ]           |                           |                         |
| * Heart                |                                      | Cardiomyopathy            | Mild                    |
| * Kidney               |                                      | Cyst                      |                         |
|                        |                                      | Hydronephrosis            | Moderate                |
|                        |                                      | Nephropathy               | Minimal                 |
|                        | [ Cyst TGLs = 3-21 ]                 |                           |                         |
|                        | [ Hydronephrosis TGLs = 4-5, 4-21 ]  |                           |                         |
| * Liver                | Hepatocyte                           | Hypertrophy               | Mild                    |
| * Lung                 |                                      | Infiltration Cellular     | Histiocyte, Minimal     |
|                        | [ Infiltration Cellular TGLs = 5-2 ] |                           |                         |
| * Pituitary Gland      | Pars Distalis                        | Adenoma                   |                         |
|                        | [ Adenoma TGLs = 7-1 ]               |                           |                         |
| * Preputial Gland      | Duct                                 | Ectasia                   | Mild                    |
|                        | [ Ectasia TGLs = 1-8 ]               |                           |                         |
| * Prostate             |                                      | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands      | Parotid GI                           | Vacuolization Cytoplasmic | Minimal                 |
| * Spleen               |                                      | Pigmentation              | Minimal                 |
| * Stomach, Forestomach |                                      | Hyperkeratosis            | Minimal                 |
|                        | Epithelium                           | Hyperplasia               | Moderate                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 119

TRT#: 5

SEX: Male

DAY ON TEST: 602

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105119

**ORGAN AND ACCOUNTABLE SITE STATUS**

Inflammation

Chronic, Mild

[ Hyperkeratosis TGLs = 8-22 ]

[ Hyperplasia TGLs = 8-22 ]

[ Inflammation TGLs = 8-22 ]

\* Thymus

Atrophy

Mild

Ectopic Parathyroid Gland

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 120

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105120

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Nose	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Cyst	
		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 3-5 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 4-21 ]		
* Lymph Node, Mandibular		Ectasia	Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes		Degeneration	Moderate
	[ Degeneration TGLs = 1-7 ]		
* Thymus		Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

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**ANIMAL ID:** 120

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105120

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 121

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105121

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Nose	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
		Nephropathy	Minimal
Note: neutrophils in pelvic lumen, minimal hyperplasia of transitional epithelium and lymphocytes in connective tissue peripheral to transitional epithelium			
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Degeneration	Cystic, Minimal
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 1-5 ]		
* Pancreas		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 121

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105121

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 122

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105122

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Preputial Gland          | * Salivary Glands         |
| * Seminal Vesicle           | * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

OBSERVATIONS

- |                   |                                           |                                  |                         |
|-------------------|-------------------------------------------|----------------------------------|-------------------------|
| * Heart           |                                           | Cardiomyopathy                   | Minimal                 |
| * Kidney          |                                           | Nephropathy                      | Mild                    |
| * Liver           |                                           | Clear Cell Focus                 | Multiple                |
|                   |                                           | Fatty Change                     | Minimal                 |
|                   | Bile Duct                                 | Hyperplasia                      | Minimal                 |
|                   | Hepatocyte                                | Hypertrophy                      | Moderate                |
|                   | [ Clear Cell Focus TGLs = 2-6 ]           |                                  |                         |
| * Lung            |                                           | Infiltration Cellular            | Histiocyte, Minimal     |
| Mesentery         | Fat                                       | Necrosis                         | Mild                    |
|                   | [ Necrosis TGLs = 1-21 ]                  |                                  |                         |
| * Pituitary Gland | Pars Distalis                             | Adenoma                          |                         |
|                   | Pars Distalis                             | Hyperplasia                      | Focal, Minimal          |
|                   | [ Adenoma TGLs = 1-5 ]                    |                                  |                         |
| * Prostate        |                                           | Inflammation                     | Chronic Active, Minimal |
| * Skin            |                                           | Cyst Epithelial Inclusion        | Mild                    |
|                   | [ Cyst Epithelial Inclusion TGLs = 4-22 ] |                                  |                         |
| * Spleen          |                                           | Hematopoietic Cell Proliferation | Minimal                 |
|                   |                                           | Pigmentation                     | Minimal                 |
| * Thymus          |                                           | Hemorrhage                       | Minimal                 |
|                   | [ Hemorrhage TGLs = 3-3 ]                 |                                  |                         |
| * Thyroid Gland   | C Cell                                    | Adenoma                          |                         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 122

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105122

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Mild

Follicular Cel

Hyperplasia

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 123

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105123

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
* Esophagus		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 2-22 ]		
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Clear Cell Focus TGLs = 6-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
		Hemorrhage	Mild
	[ Hemorrhage TGLs = 1-8 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 8-24 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Forestomach		Squamous Cell Papilloma	Multiple
	[ Squamous Cell Papilloma TGLs = 4-23, 7-21 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 123

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105123

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Adenoma

Multiple

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 124

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105124

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

OBSERVATIONS

- |                   |                                                                                          |                       |                      |
|-------------------|------------------------------------------------------------------------------------------|-----------------------|----------------------|
| * Adrenal Cortex  |                                                                                          | Angiectasis           | Minimal              |
| * Brain           |                                                                                          | Compression           | Moderate             |
|                   | [ Compression TGLs = 2-1 ]                                                               |                       |                      |
| * Heart           |                                                                                          | Cardiomyopathy        | Minimal              |
| * Kidney          | Pelvis                                                                                   | Inflammation          | Chronic Active, Mild |
| * Liver           |                                                                                          | Fatty Change          | Minimal              |
|                   | Bile Duct                                                                                | Hyperplasia           | Minimal              |
|                   | Hepatocyte                                                                               | Hypertrophy           | Moderate             |
|                   | Hepatocyte                                                                               | Necrosis              | Minimal              |
|                   | Note: multiple foci of coagulative necrosis with a minimal neutrophilic infiltrate       |                       |                      |
|                   | [ Necrosis TGLs = 4-21 ]                                                                 |                       |                      |
| * Lung            |                                                                                          | Infiltration Cellular | Histiocyte, Minimal  |
| * Pituitary Gland | Pars Distalis                                                                            | Adenoma               |                      |
|                   | Note: occasional bizzare large cells with large nuclei and stippled chromatin in adenoma |                       |                      |
|                   | [ Adenoma TGLs = 3-1 ]                                                                   |                       |                      |
| * Spleen          |                                                                                          | Pigmentation          | Minimal              |
| * Testes          |                                                                                          | Degeneration          | Mild                 |
|                   | [ Degeneration TGLs = 1-7 ]                                                              |                       |                      |
| * Thymus          |                                                                                          | Atrophy               | Minimal              |
| * Thyroid Gland   | C Cell                                                                                   | Hyperplasia           | Mild                 |
|                   | Follicular Cel                                                                           | Hyperplasia           | Mild                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 124

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105124

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 125

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105125

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Epididymis                |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |                   |                                                       |                       |                         |
|-------------------|-------------------------------------------------------|-----------------------|-------------------------|
| * Adrenal Cortex  |                                                       | Angiectasis           | Minimal                 |
| * Brain           |                                                       | Compression           | Moderate                |
|                   | [ Compression TGLs = 9-1 ]                            |                       |                         |
| * Epididymis      |                                                       |                       |                         |
|                   | Note: sperm absent or sparse in tubules of epididymis |                       |                         |
| * Kidney          |                                                       | Nephropathy           | Mild                    |
| * Liver           |                                                       | Clear Cell Focus      | Multiple                |
|                   |                                                       | Eosinophilic Focus    |                         |
|                   |                                                       | Fatty Change          | Minimal                 |
|                   | Bile Duct                                             | Hyperplasia           | Minimal                 |
|                   | Hepatocyte                                            | Hypertrophy           | Moderate                |
| * Lung            |                                                       | Infiltration Cellular | Histiocyte, Minimal     |
| * Mammary Gland   | Duct                                                  | Dilatation            | Mild                    |
|                   | [ Dilatation TGLs = 7-22 ]                            |                       |                         |
| Mesentery         | Fat                                                   | Necrosis              | Minimal                 |
|                   | [ Necrosis TGLs = 6-21 ]                              |                       |                         |
| * Pituitary Gland | Pars Distalis                                         | Adenoma               |                         |
|                   | [ Adenoma TGLs = 8-1 ]                                |                       |                         |
| * Preputial Gland |                                                       | Inflammation          | Chronic Active, Minimal |
|                   | Note: both preputial glands                           |                       |                         |
|                   | [ Inflammation TGLs = 4-8, 5-8 ]                      |                       |                         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 125

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105125

ORGAN AND ACCOUNTABLE SITE STATUS

* Spleen		Pigmentation	Mild
* Testes		Degeneration	Marked
		Mineralization	Minimal
	[ Degeneration TGLs = 2-7 ]		
	[ Mineralization TGLs = 1-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 126

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 669

**DOSE:** 15 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105126

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Preputial Gland          | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Testes                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                           |                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            | Vacuolization Cytoplasmic | Minimal             |
| * Brain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Glioma Malignant          |                     |
| Note: large, densely cellular, poorly demarcated neoplasm partially effacing cerebral neuropil and extending into ventricles, neoplastic cells relatively uniform<br>Note: neoplastic cells had round hyperchromatic nuclei, eosinophilic cytoplasm and indistinct cytoplasmic borders, necrosis with pseudopalisading of tumor cells<br>Note: cavitation within neoplasm with gitter cells and hemosiderin-laden macrophages<br>Note: mononuclear cells or neoplastic cells in meninges, perivascular accumulations of cells, scattered large cells with eosinophilic cytoplasm, neuronal satellitosis<br>[ Glioma Malignant TGLs = 5-1,4-23 ] |            |                           |                     |
| * Eye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Retina     | Atrophy                   | Mild                |
| * Liver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            | Eosinophilic Focus        |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | Fatty Change              | Mild                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bile Duct  | Hyperplasia               | Minimal             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Hepatocyte | Hypertrophy               | Moderate            |
| Note: hepatocellular adenomas on slide 6 and 21<br>[ Eosinophilic Focus TGLs = 1-21 ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                           |                     |
| * Lung                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Infiltration Cellular     | Histiocyte, Minimal |
| [ Infiltration Cellular TGLs = 6-24 ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |                           |                     |
| Mesentery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Inflammation              | Chronic, Mild       |
| Note: fibrosis, neovascularization, hemorrhage, and mononuclear infiltrate<br>[ Inflammation TGLs = 3-22 ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                           |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 126

TRT#: 5

SEX: Male

DAY ON TEST: 669

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105126

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland		Glioma Malignant	Metastatic (Brain)
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Carcinoma	
* Thymus		Atrophy	Minimal
		Ectopic Parathyroid Gland	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Brain Glioma Malignant

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 127

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105127

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 2-5 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Hyperplasia	Plasma Cell, Mild
* Prostate		Inflammation	Chronic Active, Mild
	[ Inflammation TGLs = 1-21 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 128

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105128

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Brain		Compression	Moderate
	[ Compression TGLs = 3-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Dilatation	Mild
		Nephropathy	Minimal
* Liver	Hepatocyte	Fatty Change	Moderate
		Hypertrophy	Moderate
		Pigmentation	Mild
	Note: brown granular pigment - lipofuscin or hemosiderin		
	[ Fatty Change TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-21, 6-22 ]		
* Lymph Node, Mesenteric		Pigmentation	Hemosiderin, Minimal
* Mammary Gland		Pigmentation	Hemosiderin, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	Note: lighter colored focus with vacuolated, sometimes bizarre cells within adenoma		
	[ Adenoma TGLs = 4-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen	Lymph Follic	Atrophy	Mild
		Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 128

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105128

ORGAN AND ACCOUNTABLE SITE STATUS

[ Atrophy TGLs = 1-6 ]

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Mild

Hyperplasia

Mild

Inflammation

Acute, Minimal

Ulcer

Minimal

[ Hyperkeratosis TGLs = 7-23 ]

[ Hyperplasia TGLs = 7-23 ]

[ Inflammation TGLs = 7-23 ]

[ Ulcer TGLs = 7-23 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 129

TRT#: 5

SEX: Male

DAY ON TEST: 480

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105129

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Colon	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Thyroid Gland			

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Liver		Eosinophilic Focus	
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Mild
* Lung		Thymoma Malignant	Metastatic (Thymus)
Note: malignant thymoma also present in slide 2, multiple metastases with necrosis [ Thymoma Malignant TGLs = 3-24, 4-23, 5-25, 6-26, 7-27 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Minimal
* Testes		Inflammation	Acute, Minimal
Note: multinucleate giant cells			
* Thymus		Thymoma Malignant	
Note: complete effacement of thymus, clusters and nests of neoplastic squamous epithelial cells, lymphocytes are rare, extensive necrosis in neoplasm Note: 1-3 mitoses per 400x field, resembles squamous cell carcinoma [ Thymoma Malignant TGLs = 2-21 ]			

PRIMARY CAUSE OF DEATH - Thymus Thymoma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 130

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105130

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
		Note: pale basophilic (mucinous) material admixed with neutrophils and macrophages within alveoli	
* Nose		Fungus	Mild
		Inflammation	Acute, Mild
		Note: branching, septate fungal hyphae within lumen, fungi stained with the Gomori methenamine silver stain	
* Pancreas		Adenoma	Multiple
		[ Adenoma TGLs = 3-7 ]	
* Parathyroid Gland		Hyperplasia	Focal, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial Gland	Duct	Ectasia	Mild
		[ Ectasia TGLs = 4-8 ]	
* Skin		Keratoacanthoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 130

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105130

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Keratoacanthoma TGLs = 6-21 ]

\* Spleen

Pigmentation

Minimal

\* Testes

Degeneration

Marked

[ Degeneration TGLs = 1-7, 2-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 131

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105131

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Testes	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lymph Node, Mesenteric		Ectasia	Mild
* Salivary Glands	Duct, Parotid GI	Cyst	Mild
Note: ectatic ducts with periductular fibrosis			
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 132

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105132

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Liver		Clear Cell Focus	Multiple
	Artery	Degeneration	Minimal
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: fibrinoid degeneration of an artery within a portal triad with perivascular fibrosis and a minimal neutrophilic infiltrate		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 2-5 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial Gland		Inflammation	Chronic Active, Marked
	[ Inflammation TGLs = 1-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 133

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105133

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Nose	* Parathyroid Gland	* Preputial Gland
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Hemorrhage	Mild
	[ Hemorrhage TGLs = 1-8 ]		
* Lymph Node, Mesenteric		Hemorrhage	Mild
	[ Hemorrhage TGLs = 3-5 ]		
* Pancreas		Basophilic Focus	Minimal
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Adenoma	
* Thymus		Atrophy	Mild
* Thyroid Gland	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 134

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105134

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 135

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105135

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

OBSERVATIONS

- |                  |                             |                                  |                |
|------------------|-----------------------------|----------------------------------|----------------|
| * Adrenal Cortex |                             | Hypertrophy                      | Focal, Minimal |
|                  |                             | Vacuolization Cytoplasmic        | Mild           |
| * Kidney         |                             | Nephropathy                      | Minimal        |
| * Liver          |                             | Basophilic Focus                 |                |
|                  |                             | Clear Cell Focus                 | Multiple       |
|                  |                             | Fatty Change                     | Mild           |
|                  | Bile Duct                   | Hyperplasia                      | Minimal        |
|                  | Hepatocyte                  | Hypertrophy                      | Marked         |
|                  | [ Fatty Change TGLs = 1-6 ] |                                  |                |
| * Mammary Gland  |                             | Fibroadenoma                     |                |
| * Spleen         |                             | Hematopoietic Cell Proliferation | Minimal        |
|                  |                             | Pigmentation                     | Minimal        |
| * Thyroid Gland  | C Cell                      | Hyperplasia                      | Moderate       |
|                  | Follicle                    | Hypertrophy                      | Minimal        |
|                  | Follicle                    | Hypertrophy                      | Minimal        |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 136

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105136

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Epididymis               |
| * Esophagus               | * Eye                       | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Salivary Glands         | * Seminal Vesicle           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Testes                    | * Thymus                 | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                   |                                                                        |                                  |                         |
|-------------------|------------------------------------------------------------------------|----------------------------------|-------------------------|
| * Adrenal Cortex  |                                                                        | Hyperplasia                      | Focal, Minimal          |
| * Brain           | Meninges                                                               | Granular Cell Tumor Benign       |                         |
| * Harderian Gland |                                                                        | Atrophy                          | Minimal                 |
| * Heart           |                                                                        | Cardiomyopathy                   | Minimal                 |
| * Kidney          |                                                                        | Nephropathy                      | Minimal                 |
| * Liver           |                                                                        | Basophilic Focus                 | Multiple                |
|                   |                                                                        | Clear Cell Focus                 | Multiple                |
|                   |                                                                        | Fatty Change                     | Minimal                 |
|                   | Bile Duct                                                              | Hyperplasia                      | Minimal                 |
|                   | Hepatocyte                                                             | Hypertrophy                      | Marked                  |
| * Lung            |                                                                        | Infiltration Cellular            | Histiocyte, Minimal     |
| Lymph Node        | Mediastinal                                                            | Ectasia                          | Moderate                |
|                   | [ Ectasia TGLs = 2-21, 3-22 ]                                          |                                  |                         |
| * Nose            |                                                                        |                                  |                         |
|                   | Note: acute inflammation and foreign material in gingiva next to tooth |                                  |                         |
| * Prostate        |                                                                        | Inflammation                     | Chronic Active, Minimal |
| * Spleen          |                                                                        | Hematopoietic Cell Proliferation | Minimal                 |
| * Thyroid Gland   | C Cell                                                                 | Hyperplasia                      | Mild                    |
|                   | Follicle                                                               | Hypertrophy                      | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 137

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105137

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Brain	Meninges	Hyperplasia	Granulocytic, Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Moderate
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-21, 3-22 ]		
* Pancreas		Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	Follicular Cel	Carcinoma	
	C Cell	Hyperplasia	Moderate
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 138

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105138

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lymph Node, Mandibular		Ectasia	Minimal
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLs = 2-21, 3-22 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Minimal
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLs = 1-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 139

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105139

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Minimal
[ Compression TGLs = 4-1 ]			
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
[ Adenoma TGLs = 1-21 ]			
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Mild
[ Hydronephrosis TGLs = 2-5 ]			
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pancreas		Adenoma	
* Pituitary Gland	Pars Distalis	Adenoma	
Note: greatly enlarged neoplastic cells in the pars distalis, some neoplastic cells are multinucleate, some cells have greatly enlarged nuclei and enlarged nucleoli			
[ Adenoma TGLs = 5-1 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 139

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105139

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell  
Follicle

Hyperplasia  
Hypertrophy

Moderate  
Minimal

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 140

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105140

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Testes                   | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**OBSERVATIONS**

- |                                                                                                                                             |               |                                                                                |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------|---------------------------------|
| * Adrenal Cortex                                                                                                                            |               | Hyperplasia<br>Vacuolization Cytoplasmic                                       | Focal, Minimal<br>Minimal       |
| Note: nerves in adrenal cortex                                                                                                              |               |                                                                                |                                 |
| * Heart                                                                                                                                     |               | Cardiomyopathy                                                                 | Mild                            |
| * Kidney                                                                                                                                    |               | Nephropathy                                                                    | Minimal                         |
| * Liver                                                                                                                                     |               | Basophilic Focus<br>Clear Cell Focus<br>Fatty Change<br>Hepatocellular Adenoma | Multiple<br>Multiple<br>Minimal |
| * Lung                                                                                                                                      | Hepatocyte    | Hypertrophy                                                                    | Moderate                        |
| Mesentery                                                                                                                                   | Fat           | Infiltration Cellular<br>Necrosis                                              | Histiocyte, Minimal<br>Mild     |
| [ Necrosis TGLs = 1-21 ]                                                                                                                    |               |                                                                                |                                 |
| * Pituitary Gland                                                                                                                           | Pars Distalis | Adenoma                                                                        |                                 |
| [ Adenoma TGLs = 3-1 ]                                                                                                                      |               |                                                                                |                                 |
| * Preputial Gland                                                                                                                           |               | Inflammation                                                                   | Chronic Active, Minimal         |
| [ Inflammation TGLs = 2-8 ]                                                                                                                 |               |                                                                                |                                 |
| * Prostate                                                                                                                                  |               | Inflammation                                                                   | Chronic Active, Minimal         |
| * Spleen                                                                                                                                    |               | Hematopoietic Cell Proliferation                                               | Minimal                         |
| * Stomach, Glandular                                                                                                                        |               | Cyst                                                                           | Mild                            |
| Note: cyst lined by keratinized stratified squamous epithelium contains keratin, cyst near forestomach junction, may be sectioning artifact |               |                                                                                |                                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 140

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105140

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Cyst TGLs = 4-22 ]			
* Thyroid Gland	Follicular Cel	Hyperplasia	Minimal
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 141

TRT#: 5

SEX: Male

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105141

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 4-5 ]		
Lacrimal Gland		Inflammation	Chronic, Minimal
		Karyomegaly	Mild
	Note: karyomegaly and cytomegaly of cells of the lacrimal gland		
	[ Inflammation TGLs = 2-21 ]		
	[ Karyomegaly TGLs = 2-21 ]		
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Pancreas		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Preputial Gland	Duct	Ectasia	Mild
		Inflammation	Chronic Active, Minimal
	[ Inflammation TGLs = 3-8 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 141

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105141

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell  
Follicle

Hyperplasia  
Hypertrophy

Mild  
Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 142

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105142

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Heart		Cardiomyopathy	Mild
* Kidney		Cyst	Multiple
	[ Cyst TGLs = 2-22 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hemorrhage	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Hemorrhage TGLs = 3-23 ]		
* Nose		Inflammation	Chronic Active, Minimal
	Note: neutrophils in epithelium, fibrosis adjacent to the inflamed epithelium, neutrophils also within the nasal cavity		
* Parathyroid Gland		Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thymus		Thymoma Benign	
	Note: well demarcated small mass consisting of spindle-shaped epithelial cells admixed with rare lymphocytes		
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal
Tissue NOS		Schwannoma Malignant	
	Note: loosely arranged spindle-shaped cells in collagenous to myxomatous stroma , densely packed spindle-shaped cells with plump ovoid nuclei, 0-1 mitoses/400x field		
	Note: neoplasm ulcerated, fibrin distended lymphatics and multiple cystic spaces present in neoplasm		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 142

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 553

**DOSE:** 15 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105142

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Schwannoma Malignant TGLs = 1-21, 1-21-1, 1-21-2 ]

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**PRIMARY CAUSE OF DEATH**

- Tissue NOS Schwannoma Malignant

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 143

TRT#: 5

SEX: Male

DAY ON TEST: 436

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105143

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	Peripheral Nerve
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
Spinal Cord	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Brain		Compression	Mild
[ Compression TGLs = 3-1 ]			
* Liver	Hepatocyte	Hypertrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 4-1 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 144

TRT#: 5

SEX: Male

DAY ON TEST: 289

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105144

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	Lymph Node	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 3-5 ]		
* Liver		Fatty Change	Minimal
		Hematopoietic Cell Proliferation	Minimal
	Hepatocyte	Hypertrophy	Mild
* Skin		Schwannoma Malignant	
	Note: densely packed fusiform cells arranged in interlacing bundles in dermis and subcutis, 5-7 mitoses per high powered field (mitoses/HPF), scattered necrotic foci		
	Note: ulceration with inflammation overlying neoplasm in one area		
	[ Schwannoma Malignant TGLs = 4-21, 5-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Marked
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Skin Schwannoma Malignant

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 145

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105145

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Moderate
	Mediastinal	Ectasia	Mild
	Mediastinal	Hemorrhage	Minimal
	Mediastinal	Pigmentation	Hemosiderin, Minimal
	[ Hemorrhage TGLs = 2-3 ]		
	[ Pigmentation TGLs = 2-3 ]		
* Pituitary Gland	Pars Intermed	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes		Degeneration	Minimal
	Interstit Cell	Hyperplasia	Focal, Minimal
	[ Degeneration TGLs = 1-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 146

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105146

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Kidney	Pelvis	Inflammation	Chronic Active, Mild
Note: hyperplasia of transitional epithelium in association with inflammation			
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
Note: hyperplastic focus consists of columnar to spindle-shaped eosinophilic cells adjacent to pars intermedia, some compression of pars intermedia (possibly adenoma)			
* Prostate		Inflammation	Chronic Active, Minimal
Note: reactive hyperplasia of epithelium in acini with inflammation			
* Skin		Fibroma	
[ Fibroma TGLs = 1-21 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 147

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105147

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Mild
	[ Compression TGLs = 2-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hepatocellular Adenoma	
		Hypertrophy	Moderate
	Note: clear cell foci also present on slide 6		
	[ Clear Cell Focus TGLs = 3-21 ]		
	[ Hepatocellular Adenoma TGLs = 3-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Minimal
	Note: two patterns in adenoma		
	[ Adenoma TGLs = 1-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 147

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105147

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pigmentation

Minimal

Note: splenic deformity not tabulated

Hyperplasia

Mild

\* Thyroid Gland

C Cell

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 148

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105148

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Trachea

OBSERVATIONS

* Adrenal Cortex	Hyperplasia	Focal, Minimal
* Heart	Cardiomyopathy	Mild
* Kidney	Bacterium	Mild
	Hydronephrosis	Mild
	Inflammation	Acute, Moderate

Note: bacteria present in area of inflammation, renal papilla necrotic

Note: bilateral neutrophilic infiltrate in interstitium, neutrophils prominent in medulla, renal papilla and pelvis of left kidney, neutrophils in right kidney cortex

[ Hydronephrosis TGLs = 6-5 ]

* Liver	Hepatocyte	Eosinophilic Focus	
		Fatty Change	Mild
		Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Pancreatic	Ectasia	Minimal
		Fibroadenoma	
* Mammary Gland			
		Atrophy	Minimal
	Duct	Cyst	Multiple, Mild
		Adenoma	
* Pituitary Gland	Pars Distalis		
	Duct	Ectasia	Mild

[ Ectasia TGLs = 9-7 ]

Note: rare acini present on 21-1  
 [ Fibroadenoma TGLs = 1-21, 1-21-1 ]

[ Atrophy TGLs = 5-7 ]

[ Adenoma TGLs = 8-1 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 148

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105148

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Prostate		Inflammation	Chronic Active, Marked
[ Inflammation TGLs = 3-22 ]			
* Salivary Glands	Parotid GI	Atrophy	Mild
* Seminal Vesicle		Inflammation	Chronic Active, Moderate
[ Inflammation TGLs = 4-7 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thymus		Atrophy	Mild
[ Atrophy TGLs = 7-3 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild
		Ulcer	Marked

Note: transmural neutrophilic inflammatory infiltrate, ulceration of mucosa, hyperplasia of transitional epithelium

Note: fibrosis, hemorrhage and inflammation in serosa and muscularis

[ Ulcer TGLs = 2-8 ]





Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 150

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105150

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 2-5 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
	[ Fatty Change TGLs = 4-23 ]		
* Nose		Inflammation	Acute, Mild
* Pituitary Gland	Pars Distalis	Cyst	
* Skin		Basal Cell Adenoma	
	Note: focal area of epidermal hyperplasia, thick rete pegs with numerous basal cells extending into dermis, serocellular crust on epidermis		
	[ Basal Cell Adenoma TGLs = 5-24 ]		
* Spleen		Accessory Spleen	Minimal
		Hematopoietic Cell Proliferation	Mild
	[ Accessory Spleen TGLs = 1-21 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 151

TRT#: 5

SEX: Male

DAY ON TEST: 599

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105151

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Epididymis                |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Preputial Gland          | * Seminal Vesicle         | * Skin                      |
| * Testes                 | * Trachea                  | * Urinary Bladder         |                             |

**OBSERVATIONS**

- |                                                                                                                                                          |               |                           |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------|-------------------------|
| * Adrenal Cortex                                                                                                                                         |               | Hyperplasia               | Focal, Minimal          |
| * Brain                                                                                                                                                  |               | Compression               | Moderate                |
| [ Compression TGLs = 6-1 ]                                                                                                                               |               |                           |                         |
| * Liver                                                                                                                                                  | Hepatocyte    | Fatty Change              | Marked                  |
| Note: predominantly macrovesicular                                                                                                                       |               | Hypertrophy               | Marked                  |
| [ Fatty Change TGLs = 2-6 ]                                                                                                                              |               |                           |                         |
| * Lung                                                                                                                                                   |               | Infiltration Cellular     | Histiocyte, Minimal     |
| [ Infiltration Cellular TGLs = 8-21, 9-22, 10-23 ]                                                                                                       |               |                           |                         |
| * Mammary Gland                                                                                                                                          |               | Cyst                      | Minimal                 |
|                                                                                                                                                          |               | Pigmentation              | Hemosiderin, Minimal    |
| * Pituitary Gland                                                                                                                                        | Pars Distalis | Adenoma                   |                         |
| Note: within adenoma was a discrete focus of cells with large amounts pale eosinophilic cytoplasm , large nuclei and nucleoli, with cytoplasmic vacuoles |               |                           |                         |
| [ Adenoma TGLs = 5-1 ]                                                                                                                                   |               |                           |                         |
| * Prostate                                                                                                                                               |               | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands                                                                                                                                        | Parotid GI    | Vacuolization Cytoplasmic | Mild                    |
| * Spleen                                                                                                                                                 |               | Pigmentation              | Mild                    |
| * Stomach, Forestomach                                                                                                                                   |               | Hyperkeratosis            | Moderate                |
|                                                                                                                                                          | Epithelium    | Hyperplasia               | Moderate                |
|                                                                                                                                                          |               | Inflammation              | Chronic, Mild           |
| Note: hyperplasia and hyperkeratosis are multifocal                                                                                                      |               |                           |                         |
| [ Hyperkeratosis TGLs = 7-4 ]                                                                                                                            |               |                           |                         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 151

TRT#: 5

SEX: Male

DAY ON TEST: 599

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105151

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hyperplasia TGLs = 7-4, 11-24 ]

[ Inflammation TGLs = 7-4, 11-24 ]

\* Stomach, Glandular

\* Thymus

\* Thyroid Gland

C Cell

Inflammation

Atrophy

Hyperplasia

Acute, Minimal

Moderate

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 152

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105152

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Moderate
		Mixed Cell Focus	Multiple
Note: clear cell foci on slide 6 and 22			
* Lung		Mineralization	Minimal
* Pituitary Gland			
Note: cholesterol clefts at junction of pars distalis and pars intermedia			
* Prostate		Inflammation	Chronic Active, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 152

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105152

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Minimal

Mineralization

Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 153

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105153

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                           |                             |
|----------------------------|--------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla          | * Bone                   | * Bone Marrow             | * Brain                     |
| * Epididymis               | * Esophagus              | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    |
| * Nose                     | * Parathyroid Gland      | * Prostate                | * Salivary Glands           |
| * Seminal Vesicle          | * Spleen                 | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                   | * Trachea                | * Urinary Bladder         |                             |

OBSERVATIONS

- |                          |                                       |                           |                             |
|--------------------------|---------------------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         |                                       | Angiectasis               | Mild                        |
|                          |                                       | Hyperplasia               | Focal, Minimal              |
|                          |                                       | Vacuolization Cytoplasmic | Minimal                     |
|                          | [ Angiectasis TGLs = 6-10 ]           |                           |                             |
| * Heart                  |                                       | Cardiomyopathy            | Mild                        |
| * Intestine Small, Ileum |                                       | Inflammation              | Chronic Active, Focal, Mild |
| * Kidney                 |                                       | Nephropathy               | Minimal                     |
| * Liver                  |                                       | Clear Cell Focus          | Multiple                    |
|                          |                                       | Fatty Change              | Mild                        |
|                          | Hepatocyte                            | Hypertrophy               | Moderate                    |
| * Lung                   |                                       | Infiltration Cellular     | Histiocyte, Minimal         |
|                          | [ Infiltration Cellular TGLs = 7-23 ] |                           |                             |
| * Mammary Gland          |                                       | Hyperplasia               | Mild                        |
| Mesentery                | Fat                                   | Necrosis                  | Mild                        |
|                          | [ Necrosis TGLs = 5-22 ]              |                           |                             |
| * Pancreas               |                                       | Atrophy                   | Minimal                     |
| * Pituitary Gland        | Pars Distalis                         | Adenoma                   |                             |
| * Preputial Gland        |                                       | Inflammation              | Chronic Active, Minimal     |
|                          | [ Inflammation TGLs = 2-8 ]           |                           |                             |
| * Skin                   |                                       | Lipoma                    |                             |
|                          | [ Lipoma TGLs = 1-21 ]                |                           |                             |
| * Testes                 |                                       | Degeneration              | Moderate                    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 153

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105153

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: interstitial edema

[ Degeneration TGLs = 3-7, 4-7 ]

\* Thyroid Gland

Follicular Cel

Adenoma

C Cell

Adenoma

C Cell

Hyperplasia

Moderate

---



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 154

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105154

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Minimal
* Pancreas		Adenoma	
		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Prostate		Inflammation	Chronic Active, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 155

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105155

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Cyst	
		Nephropathy	Mild
	[ Cyst TGLs = 1-5 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lymph Node, Mesenteric		Hemangioma	
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

Note: pyogranulomatous inflammation in the connective tissue and mucosa adjacent to the tooth, lysis of bone overlying tooth

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 156

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Mammary Gland	* Nose	* Parathyroid Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Brain		Glioma Malignant	
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Hyperplasia	Nodular, Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 6-2 ]		
* Lymph Node, Mesenteric		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 5-5 ]		
* Pancreas	Duct	Cyst	Multiple, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Multiple
* Preputial Gland	Duct	Ectasia	Moderate
		Inflammation	Chronic Active, Minimal
	[ Ectasia TGLs = 3-8 ]		
	[ Inflammation TGLs = 3-8 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 156

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105156

ORGAN AND ACCOUNTABLE SITE STATUS

\* Spleen

Fibrosis

Focal, Mild

Hematopoietic Cell Proliferation

Minimal

Histiocytic Sarcoma

Note: focal where white pulp remains, but red pulp (sinuses) is not discernible, eosinophilic matrix within red pulp containing various cells

Note: eosinophilic matrix has fibroblasts, a few lymphocytes, plasma cells, hemosiderin-laden macrophages and karyorrhectic debris

Note: may be a fibroma, but splenic architecture maintained

[ Fibrosis TGLs = 4-21 ]

\* Testes

Degeneration

Moderate

[ Degeneration TGLs = 1-7, 2-7 ]

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Adenoma

Follicular Cel

Adenoma

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Moderate

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 157

TRT#: 5

SEX: Male

DAY ON TEST: 476

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105157

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

AUTO PRECLUDES DIAG.

\* Thyroid Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
	Note: microvesicular and macrovesicular		
* Lung		Hemorrhage	Mild
* Lymph Node, Mesenteric		Hemangioma	

PRIMARY CAUSE OF DEATH

- UNCERTAIN

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 158

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 617

**DOSE:** 15 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105158

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

**INSUFFICIENT TISSUE**

\* Thymus

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 4-1 ]			
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 1-2 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1 ]			
* Prostate		Inflammation	Chronic Active, Mild
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Mild
		Ulcer	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 158

TRT#: 5

SEX: Male

DAY ON TEST: 617

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105158

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

Follicular Cel

Hyperplasia

Minimal

Follicle

Hypertrophy

Mild

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 159

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105159

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
		Hepatocellular Adenoma	
* Lung	Hepatocyte	Hypertrophy	Moderate
	[ Infiltration Cellular TGLs = 2-2 ]	Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Cyst TGLs = 1-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 160

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105160

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Lymph Node, Mandibular  | * Nose                      | * Pancreas               | * Parathyroid Gland        |
| * Preputial Gland         | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                                                                                                                                                                    |               |                       |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------|--------------------------|
| * Islets, Pancreatic                                                                                                                                               |               | Adenoma               |                          |
| * Kidney                                                                                                                                                           |               | Nephropathy           | Minimal                  |
| * Liver                                                                                                                                                            |               | Basophilic Focus      | Multiple                 |
|                                                                                                                                                                    |               | Clear Cell Focus      | Multiple                 |
|                                                                                                                                                                    |               | Eosinophilic Focus    |                          |
|                                                                                                                                                                    |               | Fatty Change          | Minimal                  |
|                                                                                                                                                                    | Hepatocyte    | Hypertrophy           | Moderate                 |
| Note: hepatocellular adenoma on slide 22                                                                                                                           |               |                       |                          |
| Note: adenoma on slide 22                                                                                                                                          |               |                       |                          |
| [ Clear Cell Focus TGLs = 4-22 ]                                                                                                                                   |               |                       |                          |
| * Lung                                                                                                                                                             |               | Infiltration Cellular | Histiocyte, Minimal      |
|                                                                                                                                                                    |               | Mineralization        | Minimal                  |
| Note: artery with mineralization                                                                                                                                   |               |                       |                          |
| * Lymph Node, Mesenteric                                                                                                                                           |               | Pigmentation          | Hemosiderin, Mild        |
| [ Pigmentation TGLs = 2-21 ]                                                                                                                                       |               |                       |                          |
| * Pituitary Gland                                                                                                                                                  | Pars Distalis | Adenoma               |                          |
| Note: adenoma of pars distalis consists of two population of cells, sheets of round cells with dark nuclei and minimal cytoplasm and nests of spindle shaped cells |               |                       |                          |
| [ Adenoma TGLs = 3-1 ]                                                                                                                                             |               |                       |                          |
| * Prostate                                                                                                                                                         |               | Inflammation          | Chronic Active, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 160

TRT#: 5

SEX: Male

DAY ON TEST: 731

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105160

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Inflammation TGLs = 1-7-1 ]

\* Spleen

Hematopoietic Cell Proliferation

Minimal

\* Thymus

Ectopic Parathyroid Gland

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 161

TRT#: 7

SEX: Male

DAY ON TEST: 480

DOSE: 50 MG/KG

DISP: Dosing Accident

HISTO: 110520105161

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Eye	* Harderian Gland
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Thyroid Gland
--------------------------	--------------------------	----------------------------	-----------------

**OBSERVATIONS**

* Esophagus		Inflammation Ulcer	Acute, Moderate Moderate
	[ Inflammation TGLs = 4-22 ] [ Ulcer TGLs = 4-22 ]		
* Heart	Epicardium	Inflammation	Chronic, Minimal
* Kidney		Hydronephrosis Nephropathy	Mild Minimal
	[ Hydronephrosis TGLs = 2-5 ]		
* Liver	Hepatocyte	Fatty Change Hypertrophy	Moderate Moderate
	Note: microvesicular and macrovesicular, microvesicular predominates		
* Lung	Serosa	Fibrosis Infiltration Cellular Inflammation	Minimal Histocyte, Minimal Acute, Minimal
	Note: fibrinous exudate admixed with a few karyorrhectic leukocytes on the edge of the lung		
Mesentery		Hemorrhage	Moderate
	[ Hemorrhage TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
* Preputial Gland	Duct	Ectasia	Mild
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 161

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 480

**DOSE:** 50 MG/KG

**DISP:** Dosing Accident

**HISTO:** 110520105161

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Ectopic Parathyroid Gland

Minimal

---

**PRIMARY CAUSE OF DEATH**

- Esophagus Ulcer

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 162

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105162

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Accessory Adrenal Cortical Nodule	Minimal
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 1-5 ]		
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: microvesicular and macrovesicular vacuolization		
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Pancreas		Atrophy	Minimal
* Preputial Gland		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Chronic, Minimal
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 163

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105163

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Spleen                 | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                   |                                                         |                       |                     |
|-------------------|---------------------------------------------------------|-----------------------|---------------------|
| * Adrenal Cortex  |                                                         | Angiectasis           | Minimal             |
| * Heart           |                                                         | Cardiomyopathy        | Minimal             |
| * Kidney          |                                                         | Nephropathy           | Minimal             |
| * Liver           |                                                         | Clear Cell Focus      | Multiple            |
|                   |                                                         | Eosinophilic Focus    |                     |
|                   |                                                         | Fatty Change          | Mild                |
|                   | Hepatocyte                                              | Hypertrophy           | Marked              |
|                   | [ Clear Cell Focus TGLs = 7-25 ]                        |                       |                     |
| * Lung            |                                                         | Infiltration Cellular | Histiocyte, Minimal |
|                   | [ Infiltration Cellular TGLs = 3-21, 4-22, 5-23, 6-24 ] |                       |                     |
| * Pituitary Gland | Pars Distalis                                           | Adenoma               |                     |
| * Preputial Gland | Duct                                                    | Ectasia               | Marked              |
|                   | [ Ectasia TGLs = 1-8, 2-8 ]                             |                       |                     |
| * Testes          |                                                         | Degeneration          | Mild                |
| * Thyroid Gland   | C Cell                                                  | Adenoma               |                     |
|                   | C Cell                                                  | Hyperplasia           | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 164

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105164

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 3-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-2 ]		
* Parathyroid Gland		Cyst	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Preputial Gland	Duct	Ectasia	Moderate
	[ Ectasia TGLs = 1-22 ]		
* Spleen		Hemorrhage	Focal, Moderate
	[ Hemorrhage TGLs = 2-21 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 165

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 92

**DOSE:** 50 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105165

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

**INSUFFICIENT TISSUE**

\* Pituitary Gland

**OBSERVATIONS**

* Adren Cortex			
Note: one adrenal gland present on slide			
* Kidney		Hydronephrosis	Mild
[ Hydronephrosis   TGLs = 1-5 ]			
* Liver	Hepatocyte	Fatty Change	Mild
Note: microvesicular and macrovesicular vacuolization		Hypertrophy	Moderate
* Preputial Gland		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Chronic, Minimal



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 166

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105166

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 3-1 ]		
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Cholangiofibrosis	Mild
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-22, 6-23, 7-24 ]		
* Lymph Node, Mandibular		Ectasia	Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 1-21 ]		
* Nose			
	Note: chronic acitive inflammtion in region of tooth		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Preputial Gland		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLs = 2-25 ]		
* Prostate		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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Lab: SRI

---

**ANIMAL ID:** 166

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105166

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Minimal
* Testes		Degeneration	Mild
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild

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Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 167

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105167

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Mammary Gland            | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

OBSERVATIONS

- |                   |                                                                                                 |                       |                     |
|-------------------|-------------------------------------------------------------------------------------------------|-----------------------|---------------------|
| * Adrenal Cortex  |                                                                                                 | Angiectasis           | Minimal             |
|                   |                                                                                                 | Hyperplasia           | Focal, Minimal      |
| * Brain           |                                                                                                 | Compression           | Minimal             |
|                   | [ Compression TGLs = 3-1 ]                                                                      |                       |                     |
| * Heart           |                                                                                                 | Cardiomyopathy        | Minimal             |
| * Kidney          |                                                                                                 | Hydronephrosis        | Moderate            |
|                   |                                                                                                 | Nephropathy           | Minimal             |
|                   | [ Hydronephrosis TGLs = 6-5 ]                                                                   |                       |                     |
| * Liver           |                                                                                                 | Clear Cell Focus      | Multiple            |
|                   |                                                                                                 | Eosinophilic Focus    | Multiple            |
|                   |                                                                                                 | Fatty Change          | Mild                |
|                   | Hepatocyte                                                                                      | Hypertrophy           | Marked              |
|                   | Note: predominantly microvesicular vacuolization                                                |                       |                     |
|                   | [ Hypertrophy TGLs = 2-6 ]                                                                      |                       |                     |
| * Lung            |                                                                                                 | Infiltration Cellular | Histiocyte, Minimal |
|                   | [ Infiltration Cellular TGLs = 7-22, 8-23 ]                                                     |                       |                     |
| Mesentery         | Fat                                                                                             | Necrosis              | Mild                |
|                   | [ Necrosis TGLs = 1-21 ]                                                                        |                       |                     |
| * Nose            |                                                                                                 | Fungus                | Mild                |
|                   |                                                                                                 | Inflammation          | Acute, Mild         |
|                   | Note: branching, sepatate fungal hyphae, fungi stained with the Gomori methenamine silver stain |                       |                     |
| * Pituitary Gland | Pars Distalis                                                                                   | Adenoma               |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 167

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105167

ORGAN AND ACCOUNTABLE SITE STATUS

[ Adenoma TGLs = 4-1 ]

* Preputial Gland	Duct	Ectasia	Mild
* Prostate		Inflammation	Chronic Active, Minimal
* Seminal Vesicle		Hyperplasia	Mild
		Inflammation	Acute, Minimal
* Spleen		Pigmentation	Minimal
* Testes		Degeneration	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

Note: only one thyroid gland present, one lost at trimming

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

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 Lab: SRI

ANIMAL ID: 168

TRT#: 7

SEX: Male

DAY ON TEST: 505

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105168

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                           |                             |                            |
|--------------------------|---------------------------|-----------------------------|----------------------------|
| * Adrenal Medulla        | * Bone                    | * Bone Marrow               | * Epididymis               |
| * Esophagus              | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum   |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Jejunum |
| * Islets, Pancreatic     | * Lymph Node, Mandibular  | * Lymph Node, Mesenteric    | * Mammary Gland            |
| * Nose                   | * Pancreas                | * Parathyroid Gland         | * Preputial Gland          |
| * Seminal Vesicle        | * Skin                    | * Testes                    | * Trachea                  |
| * Urinary Bladder        |                           |                             |                            |

**AUTO PRECLUDES DIAG.**

- \* Intestine Small, Ileum

**OBSERVATIONS**

- |                   |                                                                                                                                                                     |                                   |                      |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|
| * Adrenal Cortex  |                                                                                                                                                                     | Accessory Adrenal Cortical Nodule | Mild                 |
|                   |                                                                                                                                                                     | Hypertrophy                       | Focal, Minimal       |
|                   |                                                                                                                                                                     | Vacuolization Cytoplasmic         | Minimal              |
| * Brain           |                                                                                                                                                                     | Compression                       | Moderate             |
|                   | [ Compression TGLs = 6-1 ]                                                                                                                                          |                                   |                      |
| * Heart           |                                                                                                                                                                     | Cardiomyopathy                    | Minimal              |
| * Kidney          |                                                                                                                                                                     | Nephropathy                       | Minimal              |
| * Liver           |                                                                                                                                                                     | Eosinophilic Focus                | Multiple             |
|                   |                                                                                                                                                                     | Fatty Change                      | Marked               |
|                   |                                                                                                                                                                     | Hepatodiaphragmatic Nodule        |                      |
|                   | Hepatocyte                                                                                                                                                          | Hypertrophy                       | Marked               |
|                   | Note: macrovesicular and microvesicular                                                                                                                             |                                   |                      |
|                   | [ Fatty Change TGLs = 4-6 ]                                                                                                                                         |                                   |                      |
|                   | [ Hepatodiaphragmatic Nodule TGLs = 2-21 ]                                                                                                                          |                                   |                      |
| * Lung            |                                                                                                                                                                     | Inflammation                      | Chronic, Minimal     |
| * Pituitary Gland | Pars Distalis                                                                                                                                                       | Adenoma                           |                      |
|                   | Note: 2 populations of cells, one group of cells is smaller, anaplastic and forms sheets and cords. Other population of cells is larger and forms acini and tubules |                                   |                      |
|                   | Note: second population of cells may be focal hyperplasia                                                                                                           |                                   |                      |
|                   | [ Adenoma TGLs = 7-1 ]                                                                                                                                              |                                   |                      |
| * Prostate        |                                                                                                                                                                     | Inflammation                      | Chronic Active, Mild |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

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Lab: SRI

ANIMAL ID: 168

TRT#: 7

SEX: Male

DAY ON TEST: 505

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105168

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Inflammation TGLs = 1-7-1 ]

\* Salivary Glands

Parotid GI

Vacuolization Cytoplasmic

Mild

\* Spleen

Pigmentation

Minimal

\* Stomach, Forestomach

Edema

Mild

Hyperkeratosis

Mild

Epithelium

Hyperplasia

Moderate

Inflammation

Chronic, Moderate

Ulcer

Moderate

[ Edema TGLs = 8-4-1 ]

[ Hyperkeratosis TGLs = 8-4-1 ]

[ Hyperplasia TGLs = 8-4-1 ]

[ Inflammation TGLs = 8-4-1 ]

[ Ulcer TGLs = 8-4-1 ]

\* Stomach, Glandular

Inflammation

Chronic, Mild

\* Thymus

Atrophy

Mild

Hemorrhage

Mild

[ Hemorrhage TGLs = 3-3 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

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Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 169

TRT#: 7

SEX: Male

DAY ON TEST: 666

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105169

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Islets, Pancreatic
Lymph Node	* Lymph Node, Mandibular	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

AUTO PRECLUDES DIAG.

* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Brain	Compression	Moderate
[ Compression TGLs = 7-1 ]		
* Heart	Cardiomyopathy	Mild
* Kidney	Nephropathy	Moderate
[ Vacuolization Cytoplasmic TGLs = 1-5 ]	Vacuolization Cytoplasmic	Marked
* Liver	Cyst	Mild
Bile Duct	Eosinophilic Focus	
	Fatty Change	Marked
	Hepatocellular Adenoma	Multiple
Hepatocyte	Hypertrophy	Marked
[ Eosinophilic Focus TGLs = 3-22 ]		
[ Fatty Change TGLs = 4-6 ]		
[ Hepatocellular Adenoma TGLs = 2, 4-21, 06 ]		
[ Hypertrophy TGLs = 4-6 ]		
* Lung	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric	Hemorrhage	Minimal
[ Hemorrhage TGLs = 5-5 ]		
* Mammary Gland	Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Adenoma	
Pars Distalis		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 169

TRT#: 7

SEX: Male

DAY ON TEST: 666

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105169

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 6-1 ]

* Salivary Glands	Parotid GI	Atrophy	Mild
	Duct, Parotid GI	Inflammation	Acute, Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
	Submandibul GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 170

TRT#: 7

SEX: Male

DAY ON TEST: 458

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105170

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Lymph Node, Mandibular   | * Mammary Gland           |
| * Nose                      | * Pancreas               | * Parathyroid Gland        | * Preputial Gland         |
| * Seminal Vesicle           | * Skin                   | * Stomach, Glandular       | * Testes                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

OBSERVATIONS

- |                          |                                                                            |                           |                         |
|--------------------------|----------------------------------------------------------------------------|---------------------------|-------------------------|
| * Brain                  |                                                                            | Compression               | Moderate                |
|                          | [ Compression TGLs = 4-1 ]                                                 |                           |                         |
| * Liver                  |                                                                            | Fatty Change              | Moderate                |
|                          | Hepatocyte                                                                 | Hypertrophy               | Marked                  |
|                          | Note: cytoplasmic vacuolization is periportal                              |                           |                         |
|                          | [ Fatty Change TGLs = 3-6 ]                                                |                           |                         |
|                          | [ Hypertrophy TGLs = 3-6 ]                                                 |                           |                         |
| * Lymph Node, Mesenteric |                                                                            | Hemorrhage                | Minimal                 |
|                          | [ Hemorrhage TGLs = 2-5 ]                                                  |                           |                         |
| * Pancreas               |                                                                            |                           |                         |
|                          | Note: reduction in zymogen granules considered to be secondary to anorexia |                           |                         |
| * Pituitary Gland        | Pars Distalis                                                              | Adenoma                   |                         |
|                          | [ Adenoma TGLs = 5-1 ]                                                     |                           |                         |
| * Prostate               |                                                                            | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands        | Parotid GI                                                                 | Vacuolization Cytoplasmic | Mild                    |
|                          | Sublingual GI                                                              | Vacuolization Cytoplasmic | Minimal                 |
| * Spleen                 | Lymph Follicle                                                             | Atrophy                   | Mild                    |
|                          |                                                                            | Pigmentation              | Minimal                 |
|                          | [ Atrophy TGLs = 1-6 ]                                                     |                           |                         |
| * Stomach, Forestomach   |                                                                            | Hyperkeratosis            | Minimal                 |
|                          | Epithelium                                                                 | Hyperplasia               | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 170

TRT#: 7

SEX: Male

DAY ON TEST: 458

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105170

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hyperkeratosis TGLs = 6-21 ]	Inflammation	Chronic, Minimal
* Thymus	Atrophy	Moderate
* Thyroid Gland	Hyperplasia	Mild
C Cell	Hypertrophy	Minimal
Follicle		

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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 Lab: SRI

ANIMAL ID: 171

TRT#: 7

SEX: Male

DAY ON TEST: 609

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105171

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum
--------------------------	--------------------------

**OBSERVATIONS**

* Brain		Compression	Moderate
[ Compression TGLs = 3-1 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 4-1 ]			
* Preputial Gland		Inflammation	Chronic, Minimal
[ Inflammation TGLs = 1-8 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild
* Thymus		Atrophy	Mild
* Thyroid Gland	Follicular Cel	Adenoma	
[ Adenoma TGLs = 5-3-1 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

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 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 172

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105172

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	Lymph Node
* Lymph Node, Mandibular	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 6-1 ]		
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Marked
	[ Mixed Cell Focus TGLs = 2-25 ]	Mixed Cell Focus	
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
* Mammary Gland		Galactocele	Mild
	[ Galactocele TGLs = 3-22 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 7-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Note: focus of cells within one lobule that are pale basophilic and lack zymogen granules		
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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Lab: SRI

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ANIMAL ID: 172

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105172

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Adenoma TGLs = 1-21 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 173

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105173

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Mild
		Hepatocholangioma	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 2-6 ]		
	[ Hepatocholangioma TGLs = 3-22 ]		
* Lymph Node, Mandibular		Ectasia	Minimal
* Pancreas		Basophilic Focus	Multiple, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 174

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105174

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Minimal
	[ Compression TGLs = 1-1 ]		
* Intestine Large, Rectum		Inflammation	Acute, Mild
* Kidney	Pelvis	Inflammation	Acute, Mild
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Moderate
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Minimal
	Note: hyaline droplets in ducts of parotid gland		
* Spleen		Pigmentation	Moderate
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 174

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105174

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Follicle

Hypertrophy

Minimal

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 175

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105175

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	Oral Mucosa	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Medulla		Vacuolization Cytoplasmic	Minimal
Note: vacuolization of ganglion cells			
* Liver	Hepatocyte	Hypertrophy	Moderate
Note: microvesicular and macrovesicular vacuolization			
Lymph Node		Pigmentation	Minimal
Note: left inguinal lymph node - dark brown granular pigment			
[ Pigmentation TGLs = 1-21 ]			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 176

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105176

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Lipoma	
		Nephropathy	Minimal
	Note: adipocyte focus in medulla		
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Carcinoma	
	Hepatocyte	Hypertrophy	Marked
	Note: carcinoma consists of hypertrophic hepatocytes arranged in a trabecular pattern, trabeculae 2-3 cell layers thick		
	Note: microvesicular vacuolization within clear cell focus (vacuolated focus)		
	[ Clear Cell Focus TGLs = 2-22, 4-23, 5-24 ]		
	[ Hepatocellular Carcinoma TGLs = 1-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-2 ]		
* Pituitary Gland	Pars Distalis	Cyst	
* Skin		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 6-25 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 176

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105176

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Mild

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 177

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105177

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Testes	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Minimal
	[ Compression TGLs = 6-1 ]		
* Eye	Retina	Atrophy	Mild
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 2-5 ]		
Lacrimal Gland		Inflammation	Chronic, Minimal
		Karyomegaly	Mild
	[ Inflammation TGLs = 4-21 ]		
	[ Karyomegaly TGLs = 4-21 ]		
* Liver		Angiectasis	Minimal
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 1-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-2 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 177

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105177

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland [ Adenoma TGLs = 5-1 ]	Pars Distalis	Adenoma	
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 178

TRT#: 7

SEX: Male

DAY ON TEST: 585

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105178

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Prostate	* Seminal Vesicle	* Skin	* Testes
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 2-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	Note: microvesicular and macrovesicular vacuolization		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 3-1 ]		
* Preputial Gland	Duct	Ectasia	Mild
	[ Ectasia TGLs = 1-8 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Duct, Parotid GI	Inflammation	Acute, Minimal
	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 178

TRT#: 7

SEX: Male

DAY ON TEST: 585

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105178

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hyperkeratosis TGLs = 4-21 ]

[ Hyperplasia TGLs = 4-21 ]

\* Stomach, Glandular

Inflammation

Acute, Minimal

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 179

TRT#: 7

SEX: Male

DAY ON TEST: 424

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105179

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 2-1 ]		
* Eye	Retina	Atrophy	Mild
* Islets, Pancreatic		Hyperplasia	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Minimal
	Note: a few neutrophils in site of necrosis		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 1-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
	[ Inflammation TGLs = 3-7 ]		
* Spleen		Pigmentation	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 180

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105180

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Mammary Gland            | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Testes                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |                  |                                              |                       |                     |
|------------------|----------------------------------------------|-----------------------|---------------------|
| * Adrenal Cortex |                                              | Hyperplasia           | Focal, Mild         |
| * Heart          |                                              | Cardiomyopathy        | Minimal             |
| * Kidney         |                                              | Nephropathy           | Minimal             |
| * Liver          |                                              | Basophilic Focus      | Multiple            |
|                  |                                              | Clear Cell Focus      | Multiple            |
|                  |                                              | Fatty Change          | Mild                |
|                  | Bile Duct                                    | Hyperplasia           | Mild                |
|                  | Hepatocyte                                   | Hypertrophy           | Marked              |
|                  |                                              | Inflammation          | Chronic, Minimal    |
|                  |                                              | Mixed Cell Focus      | Multiple            |
|                  | [ Clear Cell Focus TGLs = 1-21, 2-22, 3-23 ] |                       |                     |
| * Lung           |                                              | Infiltration Cellular | Histiocyte, Minimal |
|                  | [ Infiltration Cellular TGLs = 6-2 ]         |                       |                     |
| * Thymus         |                                              | Hemorrhage            | Mild                |
|                  | [ Hemorrhage TGLs = 4-3 ]                    |                       |                     |
| * Thyroid Gland  | Follicular Cel                               | Adenoma               |                     |
|                  | C Cell                                       | Adenoma               |                     |
|                  | C Cell                                       | Hyperplasia           | Moderate            |
|                  | [ Adenoma TGLs = 5-3-1 ]                     |                       |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 181

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105181

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Moderate
* Heart		Cardiomyopathy	Minimal
* Intestine Small, Jejunum		Fibroma	
Note: neoplasm was trichrome positive			
[ Fibroma TGLs = 5-21 ]			
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
[ Clear Cell Focus TGLs = 1-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
	Bronchus	Hyperplasia	Lymphoid, Mild
		Infiltration Cellular	Histiocyte, Minimal
[ Hyperplasia TGLs = 7-2 ]			
* Lymph Node, Mesenteric		Hemangiosarcoma	
[ Hemangiosarcoma TGLs = 3-5 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Minimal
[ Adenoma TGLs = 4-1 ]			
* Preputial Gland	Duct	Ectasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 181

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105181

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes		Degeneration	Mild
	[ Degeneration TGLs = 2-7 ]		
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

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Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 182

TRT#: 7

SEX: Male

DAY ON TEST: 698

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105182

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                             |                          |
|----------------------------|--------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                   | * Bone Marrow               | * Epididymis             |
| * Esophagus                | * Eye                    | * Harderian Gland           | * Heart                  |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas               | * Parathyroid Gland         | * Preputial Gland        |
| * Seminal Vesicle          | * Skin                   | * Stomach, Glandular        | * Testes                 |
| * Trachea                  | * Urinary Bladder        |                             |                          |

OBSERVATIONS

- |                                            |               |                           |                         |
|--------------------------------------------|---------------|---------------------------|-------------------------|
| * Adrenal Cortex                           |               | Angiectasis               | Minimal                 |
|                                            |               | Vacuolization Cytoplasmic | Minimal                 |
| * Brain                                    |               | Compression               | Mild                    |
| [ Compression TGLs = 5-1 ]                 |               |                           |                         |
| * Intestine Large, Rectum                  |               | Inflammation              | Acute, Minimal          |
| * Kidney                                   |               | Hydronephrosis            | Minimal                 |
|                                            |               | Nephropathy               | Minimal                 |
| [ Hydronephrosis TGLs = 2-5 ]              |               |                           |                         |
| * Liver                                    |               | Fatty Change              | Mild                    |
|                                            | Bile Duct     | Hyperplasia               | Minimal                 |
|                                            | Hepatocyte    | Hypertrophy               | Marked                  |
|                                            |               | Inflammation              | Chronic, Minimal        |
|                                            |               | Pigmentation              | Minimal                 |
| [ Fatty Change TGLs = 3-6 ]                |               |                           |                         |
| * Lung                                     |               | Infiltration Cellular     | Histiocyte, Minimal     |
| [ Infiltration Cellular TGLs = 4-2, 4-22 ] |               |                           |                         |
| * Mammary Gland                            |               | Pigmentation              | Hemosiderin, Minimal    |
| Mesentery                                  | Fat           | Necrosis                  | Minimal                 |
| [ Necrosis TGLs = 1-21 ]                   |               |                           |                         |
| * Pituitary Gland                          | Pars Distalis | Adenoma                   |                         |
| [ Adenoma TGLs = 6-1 ]                     |               |                           |                         |
| * Prostate                                 |               | Inflammation              | Chronic Active, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 182

TRT#: 7

SEX: Male

DAY ON TEST: 698

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105182

ORGAN AND ACCOUNTABLE SITE STATUS

* Salivary Glands	Parotid GI	Atrophy	Mild
	Submandibul GI	Inflammation	Acute, Minimal
	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen	Lymph Follic	Atrophy	Minimal
		Pigmentation	Mild
* Stomach, Forestomach		Inflammation	Acute, Minimal
		Ulcer	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 183

TRT#: 7

SEX: Male

DAY ON TEST: 658

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105183

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Mild
	[ Compression TGLs = 1-1 ]		
* Heart		Cardiomyopathy	Minimal
	Pericardium	Inflammation	Granulomatous, Mild
	Note: multinucleate giant cells, cholesterol clefts, clear cystic spaces rimmed by inflammatory cells or simple squamous to cuboidal epithelium		
	[ Inflammation TGLs = 3-21 ]		
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Fatty Change	Moderate
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
		Inflammation	Chronic, Minimal
	Artery	Inflammation	Chronic, Mild
	Hepatocyte	Necrosis	Mild
	Note: multifocal areas of necrosis with a neutrophilic infiltrate		
	[ Hepatocellular Adenoma TGLs = 5-23 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Note: IANR lists lymph node as Tissue NOS		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 183

TRT#: 7

SEX: Male

DAY ON TEST: 658

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105183

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hemorrhage TGLs = 4-22 ]

\* Mammary Gland

Pigmentation

Hemosiderin, Minimal

\* Pituitary Gland

Pars Distalis

Adenoma

Note: large bizarre, sometimes multinucleate cells in pars distalis adenoma

[ Adenoma TGLs = 2-1 ]

\* Salivary Glands

Parotid GI

Atrophy

Mild

Duct, Parotid GI

Inflammation

Acute, Minimal

\* Spleen

Pigmentation

Mild

\* Stomach, Forestomach

Inflammation

Acute, Minimal

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicular Cel

Hyperplasia

Mild

Tissue NOS

Note: Tissue NOS corresponds to mediastinal lymph node

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 184

TRT#: 7

SEX: Male

DAY ON TEST: 669

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105184

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Epididymis                |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Preputial Gland        | * Seminal Vesicle          | * Skin                    | * Stomach, Glandular        |
| * Testes                 | * Trachea                  | * Urinary Bladder         |                             |

OBSERVATIONS

- |                                       |               |                           |                         |
|---------------------------------------|---------------|---------------------------|-------------------------|
| * Adrenal Cortex                      |               | Hyperplasia               | Focal, Minimal          |
|                                       |               | Vacuolization Cytoplasmic | Minimal                 |
| * Brain                               |               | Compression               | Moderate                |
| [ Compression TGLs = 1-1 ]            |               |                           |                         |
| * Eye                                 |               |                           |                         |
| Note: optic nerve missing             |               |                           |                         |
| * Kidney                              |               | Hydronephrosis            | Moderate                |
|                                       |               | Nephropathy               | Minimal                 |
| [ Hydronephrosis TGLs = 4-5 ]         |               |                           |                         |
| Lacrimal GI                           |               |                           |                         |
| Note: optic nerve missing             |               |                           |                         |
| * Liver                               |               | Fatty Change              | Minimal                 |
|                                       | Hepatocyte    | Hypertrophy               | Moderate                |
| * Lung                                |               | Infiltration Cellular     | Histiocyte, Minimal     |
| [ Infiltration Cellular TGLs = 6-21 ] |               |                           |                         |
| * Mammary Gland                       |               | Pigmentation              | Hemosiderin, Minimal    |
| * Pituitary Gland                     | Pars Distalis | Adenoma                   |                         |
| [ Adenoma TGLs = 2-1 ]                |               |                           |                         |
| * Prostate                            |               | Inflammation              | Chronic Active, Minimal |
| * Salivary Glands                     | Parotid GI    | Atrophy                   | Minimal                 |
|                                       | Parotid GI    | Vacuolization Cytoplasmic | Mild                    |
| * Spleen                              |               | Pigmentation              | Minimal                 |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 184

TRT#: 7

SEX: Male

DAY ON TEST: 669

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105184

**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Mild

Hyperplasia

Mild

Inflammation

Chronic Active, Mild

Ulcer

Mild

Note: forestomach lesions on slides 4-1 and 22, ulceration (multifocal) limited to slide 22

[ Hyperkeratosis TGLs = 7-22 ]

[ Hyperplasia TGLs = 7-22 ]

[ Inflammation TGLs = 7-22 ]

[ Ulcer TGLs = 7-22 ]

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 185

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105185

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Pituitary Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Kidney		Casts Protein	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
	Note: microvesicular and macrovesicular vacuolization		
* Pancreas		Atrophy	Minimal
* Preputial Gland		Inflammation	Chronic, Minimal
* Thyroid Gland	Follicle	Hypertrophy	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 186

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105186

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Prostate	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 3-5 ]	Nephropathy	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
		Mixed Cell Focus	Multiple
	[ Clear Cell Focus TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 7-2 ]		
Lymph Node	Mediastinal	Ectasia	Minimal
	Mediastinal	Hemorrhage	Mild
	Mediastinal	Pigmentation	Hemosiderin, Mild
	[ Hemorrhage TGLs = 4-3 ]		
	[ Pigmentation TGLs = 4-3 ]		
Mesentery	Fat	Necrosis	Moderate
	[ Necrosis TGLs = 1-21 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 186

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105186

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Moderate
* Preputial Gland	Duct	Ectasia	Minimal
		Inflammation	Chronic Active, Moderate
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Mild
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 187

TRT#: 7

SEX: Male

DAY ON TEST: 619

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105187

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle	* Skin
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 2-1-1 ]		
* Kidney	Transit Epithe	Hyperplasia	Minimal
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Eosinophilic Focus	Multiple
		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
		Pigmentation	Minimal
	Note: pale greyish brown pigment in Kupffer cells		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 3-1 ]		
* Prostate		Inflammation	Chronic Active, Mild
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Parotid GI	Vacuolization Cytoplasmic	Mild
	Note: hyaline droplet degeneration in parotid salivary gland ducts		
* Spleen		Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 187

TRT#: 7

SEX: Male

DAY ON TEST: 619

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105187

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Mild

\* Thymus

Hyperplasia

Mild

\* Thyroid Gland

C Cell

Atrophy

Moderate

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 188

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105188

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	[ Clear Cell Focus TGLs = 1-6 ]		
	[ Fatty Change TGLs = 1-6 ]		
	[ Hypertrophy TGLs = 1-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-2, 3-21 ]		
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Mild
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Testes		Degeneration	Mild
	Note: interstitial edema		
	[ Degeneration TGLs = 2-7 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 189

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 92

**DOSE:** 50 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105189

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   |
| * Thymus                  | * Thyroid Gland             | * Trachea                | * Urinary Bladder          |

**OBSERVATIONS**

- |                   |                                                                                             |                           |                  |
|-------------------|---------------------------------------------------------------------------------------------|---------------------------|------------------|
| * Kidney          | Renal Tubule                                                                                | Vacuolization Cytoplasmic | Minimal          |
|                   | [ Vacuolization Cytoplasmic TGLs = 3-22 ]                                                   |                           |                  |
| * Liver           | Hepatocyte                                                                                  | Fatty Change              | Mild             |
|                   |                                                                                             | Hypertrophy               | Moderate         |
|                   | Note: microvesicular and macrovesicular vacuolization, periportal to midzonal vacuolization |                           |                  |
| * Lung            |                                                                                             | Inflammation              | Chronic, Minimal |
| Mesentery         |                                                                                             | Fibrosis                  | Focal, Mild      |
|                   | [ Fibrosis TGLs = 1-21 ]                                                                    |                           |                  |
| * Preputial Gland |                                                                                             | Inflammation              | Chronic, Minimal |



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 190

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105190

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Marked
		Pigmentation	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 191

TRT#: 7

SEX: Male

DAY ON TEST: 351

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105191

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Seminal Vesicle	* Skin
* Testes	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Brain		Compression	Mild
	[ Compression TGLs = 13-1 ]		
* Eye			
	Note: optic nerve not present		
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 5-5 ]		
* Liver		Fatty Change	Moderate
		Fibrosis	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
		Inflammation	Chronic, Mild
	Hepatocyte	Necrosis	Mild
	Note: primarily macrovesicular vacuolization		
	Note: adhesion consists of fibrous connective tissue, eosinophilic necrotic debris, numerous macrophages, including hemosiderin-laden macrophages, and hematoidin		
	Note: focal fibrosis, necrosis and inflammation		
	[ Fatty Change TGLs = 1-6 ]		
	[ Fibrosis TGLs = 2-21 ]		
	[ Hypertrophy TGLs = 1-6 ]		
	[ Inflammation TGLs = 2-21 ]		
	[ Necrosis TGLs = 2-21 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 7-22 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 191

TRT#: 7

SEX: Male

DAY ON TEST: 351

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105191

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose		Inflammation	Acute, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 14-24 ]		
* Preputial Gland	Duct	Ectasia	Mild
* Prostate		Inflammation	Chronic Active, Minimal
	[ Inflammation TGLs = 6-7-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Duct, Submandibul GI	Inflammation	Acute, Minimal
	Parotid GI	Vacuolization Cytoplasmic	Marked
* Spleen	Lymph Follic	Atrophy	Mild
		Pigmentation	Mild
	[ Atrophy TGLs = 4-6 ]		
* Stomach, Forestomach		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Minimal
		Inflammation	Acute, Minimal
	[ Hyperkeratosis TGLs = 8-4-1 ]		
	[ Hyperplasia TGLs = 8-4-1 ]		
* Stomach, Glandular		Inflammation	Acute, Minimal
	Note: edema and a few neutrophils in a focal area of the submucosa		
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 192

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105192

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Brain		Compression	Minimal
	[ Compression TGLs = 9-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 3-5 ]		
* Liver		Clear Cell Focus	
		Eosinophilic Focus	Multiple
		Fatty Change	Moderate
		Hepatocellular Adenoma	
		Bile Duct	Hyperplasia
		Oval Cell	Hyperplasia
		Hepatocyte	Hypertrophy
	[ Hepatocellular Adenoma TGLs = 4-22 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-25, 6-26 ]		
Mesentery	Fat	Necrosis	Moderate
	Note: TGL 7 corresponds to mesenteric lymph node with pigmentation		
	[ Necrosis TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

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**ANIMAL ID:** 192

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105192

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: adenoma consists of a mass which effaced the pars distalis and compressed the pars intermedia, adenoma consists of nests of large polygonal cells

Note: nests of cells within fine connective tissue stroma, polygonal cells had moderate to abundant amounts of cytoplasm and large vesicular round nuclei

Note: 1-2 mitoses per 400x field

[ Adenoma TGLs = 10-1 ]

* Preputial Gland	Duct	Ectasia	Mild
[ Ectasia TGLs = 2-8 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 193

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105193

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Inflammation	Chronic, Minimal
* Preputial Gland		Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 194

TRT#: 7

SEX: Male

DAY ON TEST: 676

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105194

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea		

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 4-6 ]		
	[ Hypertrophy TGLs = 4-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Mild
* Lymph Node, Mesenteric		Ectasia	Moderate
	Note: large cystic space with clear contents in medullary sinus		
	[ Ectasia TGLs = 5-21 ]		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Nose			
	Note: beneath tooth there is chronic inflammation with neutrophils, intralesional bacteria, fibrosis, lysis and proliferation of bone		
* Pituitary Gland	Pars Distalis	Cyst	
* Preputial Gland		Inflammation	Chronic, Minimal
	[ Inflammation TGLs = 1-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Minimal
* Skin		Schwannoma Malignant	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 194

TRT#: 7

SEX: Male

DAY ON TEST: 676

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105194

ORGAN AND ACCOUNTABLE SITE STATUS

Note: compact, interlacing, sometimes palisading, spindle-shaped cells in a collagenous stroma, large foci of collagen, necrosis present, mitoses rare

[ Schwannoma Malignant TGLs = 6-22 ]

\* Spleen

Hematopoietic Cell Proliferation

Mild

[ Hematopoietic Cell Proliferation TGLs = 3-6 ]

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Minimal

\* Urinary Bladder

Transit Epithe

Calculus Gross Observation

Hyperplasia

Marked

Inflammation

Chronic, Minimal

Leiomyoma

Note: in addition to leiomyoma, focus of round to polygonal cells in propria/submucosa which may consist of smooth muscle cells or chronic inflammation

[ Calculus Gross Observation TGLs = 7 ]

PRIMARY CAUSE OF DEATH

- Skin Schwannoma Malignant



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 195

TRT#: 7

SEX: Male

DAY ON TEST: 639

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105195

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Brain		Compression	Moderate
	[ Compression TGLs = 3-1 ]		
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Skin		Pigmentation	Mild
	Note: possibly a melanoma		
	[ Pigmentation TGLs = 2-21 ]		
* Spleen		Pigmentation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

Note: a few dilated thyroid follicles are present

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 196

TRT#: 7

SEX: Male

DAY ON TEST: 709

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105196

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Harderian Gland	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Glandular	* Testes	* Trachea
* Urinary Bladder			

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Spleen	* Thyroid Gland		

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 5-1 ]			
* Heart		Cardiomyopathy	Mild
* Liver		Clear Cell Focus	
		Eosinophilic Focus	Multiple
		Fatty Change	Mild
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Moderate
	Hepatocyte	Necrosis	Minimal
[ Fatty Change TGLs = 4-21 ]			
[ Hepatocellular Adenoma TGLs = 4-21 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Pancreatic	Inflammation	Chronic, Moderate
[ Inflammation TGLs = 2-7 ]			
* Nose			
Note: chronic active inflammation near bone adjacent to tooth			
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 196

TRT#: 7

SEX: Male

DAY ON TEST: 709

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105196

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 6-1 ]

\* Prostate

\* Stomach, Forestomach

Epithelium

Inflammation

Hyperkeratosis

Hyperplasia

Inflammation

Leiomyosarcoma

Chronic Active, Minimal

Moderate

Moderate

Chronic, Mild

[ Leiomyosarcoma TGLs = 7-22 ]

\* Thymus

Atrophy

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 197

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105197

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 1-5 ]		
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Moderate
	Note: microvesicular and macrovesicular vacuolization		
* Preputial Gland		Inflammation	Chronic, Minimal

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 198

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 448

**DOSE:** 50 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105198

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Brain		Compression	Moderate
	[ Compression TGLs = 4-1 ]		
* Kidney		Inflammation	Chronic, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
		Pigmentation	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Preputial GI			
	Note: mononuclear inflammatory cells and foamy, vacuolated macrophages or adipocytes		
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 199

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105199

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Epididymis             | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands        | * Seminal Vesicle          | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Testes                 | * Trachea                  | * Urinary Bladder         |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                  |                                                                                                                                                                        |                           |                             |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex |                                                                                                                                                                        | Carcinoma                 |                             |
|                  |                                                                                                                                                                        | Hypertrophy               | Focal, Minimal              |
|                  |                                                                                                                                                                        | Vacuolization Cytoplasmic | Minimal                     |
|                  | Note: adrenal gland almost completely effaced by sheets and trabeculae of polygonal cells with eosinophilic cytoplasm, indistinct cytoplasmic borders and round nuclei |                           |                             |
|                  | Note: carcinoma is present within the adrenal and on capsular surface, focus of necrosis with mineralization in neoplasm                                               |                           |                             |
|                  | Note: TGL 22 is an adrenocortical carcinoma with extensive mineralization and necrosis centrally located within the neoplasm, cords of epithelial cells on periphery   |                           |                             |
|                  | [ Carcinoma TGLs = 5-23, 2-22 ]                                                                                                                                        |                           |                             |
| * Heart          |                                                                                                                                                                        | Cardiomyopathy            | Mild                        |
| * Kidney         |                                                                                                                                                                        | Hyperplasia               | Oncocytic, Minimal          |
|                  |                                                                                                                                                                        | Nephropathy               | Marked                      |
|                  | [ Nephropathy TGLs = 6-5 ]                                                                                                                                             |                           |                             |
| * Liver          |                                                                                                                                                                        | Clear Cell Focus          | Multiple                    |
|                  |                                                                                                                                                                        | Eosinophilic Focus        |                             |
|                  |                                                                                                                                                                        | Fatty Change              | Minimal                     |
|                  | Bile Duct                                                                                                                                                              | Hyperplasia               | Minimal                     |
|                  | Hepatocyte                                                                                                                                                             | Hypertrophy               | Mild                        |
|                  |                                                                                                                                                                        | Pigmentation              | Minimal                     |
|                  | [ Fatty Change TGLs = 3-6 ]                                                                                                                                            |                           |                             |
| * Lung           |                                                                                                                                                                        | Carcinoma                 | Metastatic (Adrenal Cortex) |
|                  | [ Carcinoma TGLs = 9-2 ]                                                                                                                                               |                           |                             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 199

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105199

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery [ Necrosis TGLs = 8-24 ]	Fat	Necrosis	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
	Pars Nervosa	Inflammation	Chronic, Moderate
* Preputial Gland [ Ectasia TGLs = 4-8-2 ]	Duct	Ectasia	Moderate
* Prostate		Inflammation	Chronic Active, Mild
* Skin		Schwannoma Malignant	
Note: inflammation (neutrophils and macrophages) and necrosis were present in the neoplasm, slight neural pattern			
Note: interlacing bundles of spindle shaped cells with indistinct cytoplasmic borders and ovoid nuclei in subcutis, 0-2 mitoses per 400x field, collagen not visible			
	[ Schwannoma Malignant TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Moderate
	Follicular Cel	Hyperplasia	Minimal
[ Carcinoma TGLs = 7-3-1 ]			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 200

TRT#: 7

SEX: Male

DAY ON TEST: 719

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105200

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                      |                     |
|--------------------------|----------------------------|----------------------|---------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | * Bone               | * Bone Marrow       |
| * Brain                  | * Epididymis               | * Esophagus          | * Harderian Gland   |
| * Intestine Large, Colon | * Intestine Small, Jejunum | * Islets, Pancreatic | * Lung              |
| * Lymph Node, Mandibular | * Mammary Gland            | * Nose               | * Parathyroid Gland |
| * Preputial Gland        | * Prostate                 | * Salivary Glands    | * Seminal Vesicle   |
| * Skin                   | * Spleen                   | * Stomach, Glandular | * Testes            |
| * Trachea                | * Urinary Bladder          |                      |                     |

**AUTO PRECLUDES DIAG.**

- |                          |                          |                           |                             |
|--------------------------|--------------------------|---------------------------|-----------------------------|
| * Eye                    | * Intestine Large, Cecum | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Pancreas               |                           |                             |

**OBSERVATIONS**

- |                                                                                                                                                                        |            |                        |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|---------------------|
| * Adren Cortex                                                                                                                                                         |            |                        |                     |
| Note: bacteria present                                                                                                                                                 |            |                        |                     |
| * Heart                                                                                                                                                                |            | Inflammation           | Acute, Mild         |
|                                                                                                                                                                        |            | Necrosis               | Multifocal, Minimal |
|                                                                                                                                                                        |            | Thrombosis             | Moderate            |
| Note: neutrophils and fibrin in epicardial adipose tissue adjacent to aorta, and neutrophils in multiple foci of necrosis in the myocardium, bacteria in blood vessels |            |                        |                     |
| Note: thrombus consisting of a coagulum of eosinophilic material (fibrin?) admixed with numerous coccoid to coccobacillary bacteria in lumen of ventricle and aorta    |            |                        |                     |
| * Kidney                                                                                                                                                               |            | Inflammation           | Acute, Minimal      |
| Note: bacteria in tubules                                                                                                                                              |            |                        |                     |
| * Liver                                                                                                                                                                |            | Congestion             | Minimal             |
|                                                                                                                                                                        |            | Fatty Change           | Minimal             |
|                                                                                                                                                                        |            | Hepatocellular Adenoma |                     |
|                                                                                                                                                                        | Hepatocyte | Hypertrophy            | Moderate            |
| [ Congestion TGLs = 5-21 ]                                                                                                                                             |            |                        |                     |
| [ Hypertrophy TGLs = 1-6 ]                                                                                                                                             |            |                        |                     |
| * Lymph Node, Mesenteric                                                                                                                                               |            | Hemorrhage             | Mild                |
| [ Hemorrhage TGLs = 3-5 ]                                                                                                                                              |            |                        |                     |
| * Nose                                                                                                                                                                 |            |                        |                     |
| Note: chronic active inflammation near bone adjacent to tooth, periosteal proliferation of bone                                                                        |            |                        |                     |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 200

TRT#: 7

SEX: Male

DAY ON TEST: 719

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105200

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
[ Hyperplasia TGLs = 4-1 ]			
* Preputial GI			
Note: inflammation in adipose tissue adjacent to preputial gland, lesion not bilateral so it was not considered to correspond to TGL 2			
* Spleen			
Note: bacteria present			
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic, Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	Follicular Cel	Adenoma	
Note: thyroid is autolytic, but a follicular cell adenoma appears to be present			

PRIMARY CAUSE OF DEATH - Heart Thrombosis

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 201

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105201

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Epididymis		Inflammation	Chronic, Minimal
* Heart		Cardiomyopathy	Mild
Lacrimal Gland		Karyomegaly	Moderate
	[ Karyomegaly TGLs = 7-22 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Hepatocellular Adenoma TGLs = 1-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 6-2 ]		
Lymph Node	Mediastinal	Ectasia	Mild
	[ Ectasia TGLs = 5-3 ]		
* Lymph Node, Mesenteric		Hemangioma	
* Nose		Inflammation	Chronic Active, Mild
		Ulcer	Multifocal, Mild
* Pancreas		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
* Prostate		Inflammation	Chronic Active, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 201

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105201

ORGAN AND ACCOUNTABLE SITE STATUS

[ Inflammation TGLs = 3-7-2 ]			
* Salivary Glands	Parotid GI	Basophilic Focus	Minimal
* Seminal Vesicle		Inflammation	Chronic Active, Mild
[ Inflammation TGLs = 4-7 ]			
* Spleen		Hematopoietic Cell Proliferation	Mild
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLs = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 202

TRT#: 7

SEX: Male

DAY ON TEST: 599

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105202

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Seminal Vesicle	* Skin
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Mild
	[ Compression TGLs = 3-1 ]		
* Liver		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Marked
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Nose		Fibrosarcoma	
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen	Lymph Follic	Atrophy	Mild
	[ Atrophy TGLs = 1-6 ]	Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 203

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105203

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          | * Preputial Gland         |
| * Prostate                  | * Salivary Glands        | * Seminal Vesicle          | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

- \* Mammary Gland

**OBSERVATIONS**

- |                          |                                |                           |                         |
|--------------------------|--------------------------------|---------------------------|-------------------------|
| * Adrenal Cortex         |                                | Angiectasis               | Minimal                 |
|                          |                                | Hyperplasia               | Focal, Minimal          |
|                          |                                | Vacuolization Cytoplasmic | Minimal                 |
| * Islets, Pancreatic     |                                | Adenoma                   |                         |
| * Kidney                 | Pelvis                         | Inflammation              | Chronic Active, Minimal |
|                          |                                | Nephropathy               | Minimal                 |
| * Liver                  |                                | Clear Cell Focus          | Multiple                |
|                          |                                | Degeneration              | Cystic, Minimal         |
|                          |                                | Eosinophilic Focus        |                         |
|                          |                                | Fatty Change              | Minimal                 |
|                          | Hepatocyte                     | Hypertrophy               | Marked                  |
| * Lung                   | Alveolar Epith                 | Hyperplasia               | Minimal                 |
| * Lymph Node, Mandibular |                                | Hemorrhage                | Minimal                 |
|                          | [ Hemorrhage TGLs = 3-8 ]      |                           |                         |
| * Lymph Node, Mesenteric |                                | Hemangiosarcoma           |                         |
|                          | [ Hemangiosarcoma TGLs = 2-5 ] |                           |                         |
| * Skin                   |                                | Fibrosarcoma              |                         |

Note: interlacing bundles of spindle-shaped cells with basophilic ovoid nuclei and indistinct cytoplasmic borders within a collagenous stroma

Note: fibrosarcoma is present in the dermis, subcutis and underlying musculature, wide separation of myofibers by the neoplastic fibroblasts, mitoses infrequent

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 203

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105203

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosarcoma TGLs = 1-21 ]

\* Spleen

Hematopoietic Cell Proliferation

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Moderate

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 204

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105204

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
* Nose			
Note: chronic inflammation with foreign material adjacent to tooth			
* Preputial Gland	Duct	Ectasia	Moderate
[ Ectasia TGLs = 1-8 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 205

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105205

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Testes
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Hydronephrosis	Moderate
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 4-5 ]		
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 1-6 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Nervosa	Inflammation	Chronic, Mild
	Note: gliosis in pars nervosa		
* Prostate		Inflammation	Chronic Active, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Fibrosis	Minimal
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Mild
	[ Adenoma TGLs = 3-3-1 ]		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 206

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105206

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Brain		Granular Cell Tumor Benign	
	Note: well demarcated neoplasm within cerebral cortex consisting of cells granular eosinophilic cytoplasm		
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	Note: large polygonal cells with abundant eosinophilic, often vacuolated cytoplasm and large, variably-sized round nuclei with large nucleoli within neoplasm		
* Prostate		Inflammation	Chronic Active, Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal
* Testes		Cyst	Mild
		Degeneration	Mild
	Note: tubule greatly distended with sperm - resembles spermatocoele		
	[ Cyst TGLs = 1-7 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 206

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105206

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Note: ectasia in mediastinal lymph node

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicular Cel

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 207

TRT#: 7

SEX: Male

DAY ON TEST: 682

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105207

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Harderian Gland	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Seminal Vesicle	* Thyroid Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Brain		Compression	Minimal
[ Compression TGLs = 3-1 ]			
* Heart		Cardiomyopathy	Mild
* Intestine Small, Duodenum		Inflammation	Acute, Mild
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
		Inflammation	Chronic, Minimal
Note: small scattered neutrophilic foci			
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 6-22 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 4-1 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Mild
[ Hyperkeratosis TGLs = 5-4-1 ]			
[ Hyperplasia TGLs = 5-4-1 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 207

TRT#: 7

SEX: Male

DAY ON TEST: 682

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105207

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Testes

Interstit Cell

Adenoma

Note: small focus of vacuolated interstitial cells greater than 2 tubules in width

\* Thymus

Atrophy

Mild

Ectopic Parathyroid Gland

Minimal

Hemorrhage

Moderate

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 208

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105208

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Liver	Hepatocyte	Hypertrophy	Moderate
Note: individual cell necrosis, 1 hepatocyte			
* Prostate		Inflammation	Chronic, Minimal
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 209

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105209

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Esophagus               |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mesenteric    | * Mammary Gland          | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Preputial Gland        | * Salivary Glands          | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Testes                   | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

**AUTO PRECLUDES DIAG.**

- \* Eye

**OBSERVATIONS**

- |                               |               |                           |                         |
|-------------------------------|---------------|---------------------------|-------------------------|
| * Adrenal Cortex              |               | Angiectasis               | Minimal                 |
|                               |               | Hypertrophy               | Focal, Minimal          |
|                               |               | Vacuolization Cytoplasmic | Minimal                 |
| * Brain                       |               | Compression               | Minimal                 |
| [ Compression TGLs = 3-1 ]    |               |                           |                         |
| * Epididymis                  |               | Inflammation              | Chronic, Minimal        |
| * Eye                         |               |                           |                         |
| Note: optic nerve not present |               |                           |                         |
| * Heart                       |               | Cardiomyopathy            | Minimal                 |
| * Kidney                      |               | Nephropathy               | Mild                    |
| * Liver                       |               | Basophilic Focus          |                         |
|                               |               | Clear Cell Focus          | Multiple                |
|                               |               | Fatty Change              | Minimal                 |
|                               | Hepatocyte    | Hypertrophy               | Marked                  |
| * Lung                        |               | Infiltration Cellular     | Histiocyte, Minimal     |
| * Lymph Node, Mandibular      |               | Ectasia                   | Mild                    |
| * Pituitary Gland             | Pars Distalis | Adenoma                   |                         |
| [ Adenoma TGLs = 4-1 ]        |               |                           |                         |
| * Prostate                    |               | Inflammation              | Chronic Active, Minimal |
| * Seminal Vesicle             |               | Inflammation              | Acute, Mild             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 209

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105209

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Skin

[ Squamous Cell Papilloma TGLs = 1-21 ]

Squamous Cell Papilloma

\* Thyroid Gland

Follicular Cel  
C Cell

Adenoma

Hyperplasia

Mild

[ Adenoma TGLs = 2-3-1 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 210

TRT#: 7

SEX: Male

DAY ON TEST: 701

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105210

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * Bone                      | * Bone Marrow            |
| * Brain                    | * Esophagus               | * Eye                       | * Harderian Gland        |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Preputial Gland        |
| * Prostate                 | * Seminal Vesicle         | * Skin                      | * Spleen                 |
| * Stomach, Glandular       | * Testes                  | * Thymus                    | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

**AUTO PRECLUDES DIAG.**

- \* Intestine Large, Cecum

**OBSERVATIONS**

- |              |                   |                  |
|--------------|-------------------|------------------|
| * Epididymis | Inflammation      | Chronic, Minimal |
| * Heart      | Cardiomyopathy    | Minimal          |
| * Kidney     | Casts Protein     | Minimal          |
|              | Nephropathy       | Minimal          |
| * Liver      | Clear Cell Focus  | Multiple         |
|              | Congestion        | Mild             |
|              | Fatty Change      | Mild             |
|              | Hepatocholangioma |                  |
|              | Bile Duct         | Mild             |
|              | Hepatocyte        | Marked           |
|              | Hypertrophy       | Marked           |
|              | Pigmentation      | Minimal          |

Note: periductular fibrosis

Note: neoplasm is a lobulated mass of enlarged hepatocytes arranged in cords and rare trabeculae with moderate numbers of bile ducts, loss of hepatic architecture

Note: hemosiderin-laden macrophages in neoplasm, fibrinous exudate on surface of neoplasm

[ Fatty Change TGLs = 5-6 ]

[ Hepatocholangioma TGLs = 4-22 ]

- \* Lymph Node, Mesenteric Hemangiosarcoma

[ Hemangiosarcoma TGLs = 3-5 ]

- \* Mammary Gland Pigmentation Hemosiderin, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 210

TRT#: 7

SEX: Male

DAY ON TEST: 701

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105210

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery [ Necrosis TGLs = 2-21 ]	Fat	Necrosis	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Liver Hepatocholangioma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 211

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105211

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	
	Hepatocyte	Fatty Change	Minimal
		Hypertrophy	Marked
	[ Clear Cell Focus TGLs = 2-6 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
		Infiltration Cellular	Histiocyte, Minimal
	[ Hyperplasia TGLs = 3-21 ]		
* Nose			
	Note: neutrophilic infiltrate adjacent to tooth		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Preputial Gland	Duct	Ectasia	Mild
	[ Ectasia TGLs = 1-22 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Sublingual GI	Atrophy	Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 211

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105211

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Testes

Mesothelioma Malignant

Note: mesothelioma consists of papillary structures with a fibrous core covered by cuboidal epithelium (mesothelial cells)

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 212

TRT#: 7

SEX: Male

DAY ON TEST: 595

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105212

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Harderian Gland	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Testes
* Thymus	* Urinary Bladder		

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Adrenal Medulla	* Eye	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Stomach, Glandular	* Thyroid Gland	* Trachea

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
		Hepatocellular Carcinoma	
	Hepatocyte	Hypertrophy	Marked
Note: TGLs 4 and 6, hepatocellular carcinoma consists of single rows and trabeculae of enlarged hepatocytes compressing adjacent hepatic parenchyma			
[ Hepatocellular Adenoma TGLs = 5-6 ]			
[ Hepatocellular Carcinoma TGLs = 4-21 ]			
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hemangiosarcoma	
	[ Hemangiosarcoma TGLs = 2-25 ]		
Tissue NOS		Fibrosis	Moderate
Note: fibrous connective tissue with hemosiderin-laden macrophages and a mononuclear inflammatory focus on the capsular surface between liver lobe and mesenteric fat			
Note: fibrosis on capsular surface spleen, mesentery adhered to spleen by fibrous connective tissue, mononuclear infiltrate in mesentery, hemangiosarcoma in spleen			
Note: hepatocellular carcinoma in tissue NOS			
[ Fibrosis TGLs = 3-24, 6-22 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 212

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 595

**DOSE:** 50 MG/KG

**DISP:** Natural Death

**HISTO:** 110520105212

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Spleen Hemangiosarcoma

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 213

TRT#: 7

SEX: Male

DAY ON TEST: 666

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105213

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Seminal Vesicle
* Skin	* Stomach, Glandular	* Testes	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 3-1 ]		
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Preputial Gland	Duct	Ectasia	Mild
	[ Ectasia TGLs = 1-8 ]		
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 214

TRT#: 7

SEX: Male

DAY ON TEST: 310

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105214

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: macrovesicular and microvesicular, periportal to midzonal		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
	[ Infiltration Cellular TGLs = 2-2 ]		
* Pancreas		Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
Zymbal's Gland		Carcinoma	
	[ Carcinoma TGLs = 1-21,1-21-1 ]		

PRIMARY CAUSE OF DEATH - Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 215

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105215

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Preputial Gland		Inflammation	Chronic, Minimal



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 216

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105216

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Epididymis                | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mesenteric    | * Nose                   | * Parathyroid Gland        | * Preputial Gland         |
| * Salivary Glands           | * Seminal Vesicle        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Testes                 | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                          |                                                                                                  |                           |                         |
|--------------------------|--------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| * Adrenal Cortex         |                                                                                                  | Angiectasis               | Minimal                 |
|                          |                                                                                                  | Vacuolization Cytoplasmic | Minimal                 |
| * Kidney                 |                                                                                                  | Hydronephrosis            | Moderate                |
|                          | [ Hydronephrosis TGLs = 2-5 ]                                                                    |                           |                         |
| * Liver                  |                                                                                                  | Clear Cell Focus          | Multiple                |
|                          |                                                                                                  | Eosinophilic Focus        |                         |
|                          |                                                                                                  | Fatty Change              | Minimal                 |
|                          | Hepatocyte                                                                                       | Hypertrophy               | Marked                  |
|                          |                                                                                                  | Mixed Cell Focus          |                         |
|                          | Note: foci have microvesicular and macrovesicular vacuolization of hepatocytes (vacuolated foci) |                           |                         |
|                          | [ Fatty Change TGLs = 3-6 ]                                                                      |                           |                         |
| * Lung                   | Bronchus                                                                                         | Hyperplasia               | Lymphoid, Mild          |
|                          |                                                                                                  | Infiltration Cellular     | Histiocyte, Minimal     |
| * Lymph Node, Mandibular |                                                                                                  | Ectasia                   | Minimal                 |
| * Pancreas               |                                                                                                  | Adenoma                   |                         |
|                          | [ Adenoma TGLs = 1-7 ]                                                                           |                           |                         |
| * Pituitary Gland        | Pars Distalis                                                                                    | Hyperplasia               | Focal, Minimal          |
| * Prostate               |                                                                                                  | Inflammation              | Chronic Active, Minimal |
| * Spleen                 |                                                                                                  | Pigmentation              | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 216

TRT#: 7

SEX: Male

DAY ON TEST: 731

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105216

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

Follicular Cel

Adenoma

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

[ Adenoma TGLs = 4-3-1 ]

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 217

TRT#: 7

SEX: Male

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105217

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Accessory Adrenal Cortical Nodule	Minimal
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Inflammation	Chronic, Minimal
		Metaplasia	Osseous, Minimal
* Preputial Gland		Inflammation	Chronic, Mild
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 218

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105218

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Clear Cell Focus TGLs = 3-21 ]		
	[ Fatty Change TGLs = 3-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-2 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 219

TRT#: 7

SEX: Male

DAY ON TEST: 558

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105219

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Prostate	* Seminal Vesicle	* Skin
* Stomach, Glandular	* Testes	* Trachea	* Urinary Bladder

OBSERVATIONS

* Brain		Compression	Moderate
	Meninges	Granular Cell Tumor Benign	
	[ Compression TGLs = 6-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
	[ Nephropathy TGLs = 1-5, 2-5 ]		
* Liver		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 3-6 ]		
* Mammary Gland		Pigmentation	Hemosiderin, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	Multiple
	Note: multiple adenomas, 3 pale eosinophilic, vacuolated, well demarcated adenomas compressing adjacent tissue within larger mass with multinucleate, bizarre cells		
	[ Adenoma TGLs = 7-1 ]		
* Preputial Gland	Duct	Ectasia	Mild
* Salivary Glands	Parotid Gland	Vacuolization Cytoplasmic	Moderate
* Spleen	Lymph Follicle	Atrophy	Mild
		Pigmentation	Mild
* Stomach, Forestomach		Edema	Moderate
		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Marked
		Inflammation	Chronic Active, Mild
		Ulcer	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 219

TRT#: 7

SEX: Male

DAY ON TEST: 558

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105219

ORGAN AND ACCOUNTABLE SITE STATUS

[ Edema TGLs = 8-4-1, 9-4-1 ]

[ Hyperkeratosis TGLs = 9-4-1 ]

[ Hyperplasia TGLs = 9-4-1 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicular Cel

Hyperplasia

Minimal

Follicle

Hypertrophy

Marked

[ Hypertrophy TGLs = 4-3-1 ]

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 220

TRT#: 7

SEX: Male

DAY ON TEST: 610

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105220

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Epididymis
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Necrosis	Focal, Minimal
Note: focus of coagulative necrosis in zona fasciculata with karyorrhectic debris			
* Brain		Compression	Moderate
	Meninges	Granular Cell Tumor Benign	
[ Compression TGLs = 8-1-1 ]			
* Heart		Pigmentation	Hemosiderin, Minimal
* Kidney		Nephropathy	Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Minimal
[ Fatty Change TGLs = 4-6 ]			
* Lymph Node, Mesenteric		Hemorrhage	Minimal
[ Hemorrhage TGLs = 6-5 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 9-1 ]			
* Preputial Gland	Duct	Ectasia	Mild
[ Ectasia TGLs = 3-8 ]			
* Prostate		Inflammation	Chronic Active, Minimal
* Salivary Glands	Parotid GI	Atrophy	Mild
	Duct, Parotid GI	Inflammation	Acute, Minimal
* Spleen		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 220

TRT#: 7

SEX: Male

DAY ON TEST: 610

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105220

ORGAN AND ACCOUNTABLE SITE STATUS

* Stomach, Forestomach	Epithelium	Hyperkeratosis Hyperplasia Inflammation Ulcer	Minimal Minimal Acute, Mild Mild
	[ Hyperkeratosis TGLs = 7-4-1 ]		
	[ Hyperplasia TGLs = 7-4-1 ]		
	[ Inflammation TGLs = 7-4-1 ]		
	[ Ulcer TGLs = 7-4-1 ]		
* Testes	Interstit Cell	Adenoma	
* Thymus		Atrophy	Marked
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 221

TRT#: 2

SEX: Female

DAY ON TEST: 445

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105221

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Eye	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 5-1 ]			
* Esophagus		Hyperkeratosis	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
Note: neutrophils, mineralization and bacteria in renal pelvis			
* Liver		Basophilic Focus	Multiple
		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Necrosis	Minimal
		Pigmentation	Mild
Note: focal necrosis			
[ Hyperplasia TGLs = 2-21 ]			
[ Necrosis TGLs = 2-21 ]			
[ Pigmentation TGLs = 2-21 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Minimal
[ Hyperplasia TGLs = 1-8-1 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 221

TRT#: 2

SEX: Female

DAY ON TEST: 445

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105221

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 6-1 ]			
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Mild
* Stomach, Forestomach		Edema	Moderate
		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Mild
		Ulcer	Minimal
Note: forestomach lesions also present on slide 4-1			
		[ Edema TGLs = 7-22 ]	
		[ Hyperkeratosis TGLs = 7-22 ]	
		[ Hyperplasia TGLs = 7-22 ]	
		[ Inflammation TGLs = 7-22 ]	
		[ Ulcer TGLs = 7-22 ]	
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 222

TRT#: 2

SEX: Female

DAY ON TEST: 694

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105222

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Parathyroid Gland
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Brain		Compression	Moderate
	[ Compression TGLs = 4-1 ]		
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Cyst	Minimal
		Fatty Change	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 6-22 ]		
* Mammary Gland	Duct	Dilatation	Minimal
	[ Dilatation TGLs = 2-8-1 ]		
Mesentery	Fat	Necrosis	Moderate
	[ Necrosis TGLs = 3-21 ]		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Marked
Note: hyaline droplets in ducts of parotid salivary gland			
* Skin		Hyperkeratosis	Mild
* Spleen		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 222

TRT#: 2

SEX: Female

DAY ON TEST: 694

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105222

**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Stomach, Forestomach

Epithelium

Hyperkeratosis

Moderate

Hyperplasia

Moderate

Inflammation

Chronic Active, Mild

Ulcer

Minimal

[ Hyperkeratosis TGLs = 7-4-1 ]

[ Hyperplasia TGLs = 7-4-1 ]

[ Inflammation TGLs = 7-4-1 ]

[ Ulcer TGLs = 7-4-1 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 223

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105223

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Lung		Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
Note: adhesion with cholesterol clefts, macrophages and adipose tissue [ Inflammation TGLs = 2-21 ]			
* Ovary			
Note: only one ovary present, the other ovary was submitted for molecular biology analysis			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 224

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105224

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland	* Pituitary Gland
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-22 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 1-21 ]		
* Ovary	Follicle	Cyst	Moderate
	[ Cyst TGLs = 3-7 ]		
* Pancreas		Inflammation	Chronic, Minimal
* Salivary Glands		Inflammation	Chronic, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Marked
	[ Hyperplasia TGLs = 4-7 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 225

TRT#: 2

SEX: Female

DAY ON TEST: 592

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105225

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Mild
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Brain		Compression	Moderate
[ Compression TGLs = 10-1 ]			
* Islets, Pancreatic		Hypertrophy	Minimal
* Kidney		Cyst	
	Pelvis	Inflammation	Chronic, Marked
[ Cyst TGLs = 4-23 ]		Inflammation	Acute, Minimal
[ Inflammation TGLs = 3-23 ]			
* Liver		Basophilic Focus	Multiple
		Hematopoietic Cell Proliferation	Minimal
Lymph Node	Inguinal	Pigmentation	Minimal
[ Pigmentation TGLs = 6-22 ]			
* Mammary Gland	Duct	Dilatation	Minimal
		Galactocele	Moderate
		Hyperplasia	Minimal
[ Galactocele TGLs = 1-21 ]			
* Ovary	Follicle	Cyst	Marked
[ Cyst TGLs = 7-24 ]			
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 225

TRT#: 2

SEX: Female

DAY ON TEST: 592

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105225

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 11-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Marked
[ Hematopoietic Cell Proliferation TGLs = 5-6 ]			
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal
Note: hyperkeratosis is multifocal			
[ Hyperkeratosis TGLs = 13-27 ]			
[ Hyperplasia TGLs = 13-27 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Adenocarcinoma	Multiple
[ Adenocarcinoma TGLs = 8,9-25,26 ]			

PRIMARY CAUSE OF DEATH - Uterus Adenocarcinoma



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 226

TRT#: 2

SEX: Female

DAY ON TEST: 292

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105226

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Harderian Gland
* Heart	* Islets, Pancreatic	* Kidney	* Lung
Lymph Node	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
Vagina			

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Thyroid Gland	

**OBSERVATIONS**

* Eye		Mineralization	Mild
Note: loci of mineralization and small globules of mineralization admixed with an eosinophilic material within anterior and posterior chambers, retina not visible			
* Liver		Congestion	Moderate
	Bile Duct	Hyperplasia	Minimal
	Serosa	Inflammation	Acute, Minimal
	Hepatocyte	Necrosis	Minimal
Note: minimal coagulative necrosis with hemorrhage			
	[ Congestion	TGLs = 5-6 ]	
	[ Hyperplasia	TGLs = 4-22 ]	
	[ Inflammation	TGLs = 6-6 ]	
Lymph Node			
Note: bilateral iliac lymph node			
* Mammary Gland		Hyperplasia	Minimal
Tissue NOS		Inflammation	Acute, Mild
	[ Inflammation	TGLs = 10-6 ]	
* Uterus	Serosa	Inflammation	Acute, Minimal

PRIMARY CAUSE OF DEATH - Tissue NOS Inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 227

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105227

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	Skeletal Muscle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

INSUFFICIENT TISSUE

\* Adrenal Medulla

OBSERVATIONS

* Adrenal Cortex	Accessory Adrenal Cortical Nodule	Minimal
* Clitoral Gland	Inflammation	Chronic, Minimal
* Pancreas	Atrophy	Minimal

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 228

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105228

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Liver	* Lung	Lymph Node
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland	Inflammation	Chronic, Minimal
* Lymph Node, Mandibular [ Hyperplasia TGLs = 1-8 ]	Hyperplasia	Lymphoid, Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 229

TRT#: 2

SEX: Female

DAY ON TEST: 585

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105229

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver
* Lymph Node, Mandibular	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Moderate
* Brain		Compression	Moderate
[ Compression TGLs = 5-1 ]			
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLs = 1-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 4-1 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 230

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105230

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Liver	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland	Inflammation	Chronic, Minimal
Lymph Node	Pigmentation	Minimal
[ Pigmentation TGLs = 1-8-1 ]		

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 231

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105231

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Hepatodiaphragmatic Nodule	
Note: not a hepatodiaphragmatic nodule, but best fit for liver deformity [ Hepatodiaphragmatic Nodule TGLs = 8-24 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Pancreatic	Hemorrhage	Mild
	Pancreatic	Pigmentation	Hemosiderin, Minimal
* Mammary Gland		Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Moderate
* Ovary	Follicle	Cyst	Multiple, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 231

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105231

ORGAN AND ACCOUNTABLE SITE STATUS

Pars Nervosa

Inflammation

Chronic, Mild

Note: pars nervosa has large polygonal cells with abundant eosinophilic cytoplasm and large round nuclei and nucleoli, cells resemble ganglion cells (ganglioneuroma)

Note: gliosis or ganglioneuroma in pars nervosa

\* Spleen

Pigmentation

Minimal

\* Thymus

Hemorrhage

Mild

[ Hemorrhage TGLs = 1-3 ]

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Moderate

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 232

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105232

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Congestion	Minimal
		Hepatocellular Adenoma	
Note: TGL 3 clear cell focus has microvesicular vacuolization			
[ Clear Cell Focus TGLs = 3-22 ]			
[ Congestion TGLs = 4-23 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 7-24, 8-25 ]			
* Mammary Gland	Duct	Dilatation	Mild
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 6-1 ]			
* Spleen		Pigmentation	Minimal
* Thymus		Hemorrhage	Mild
[ Hemorrhage TGLs = 5-3 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

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**ANIMAL ID:** 232

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105232

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

\* Uterus

Polyp Stromal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 233

TRT#: 2

SEX: Female

DAY ON TEST: 627

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105233

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Brain                  | * Clitoral Gland           |
| * Esophagus               | * Eye                       | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Mammary Gland           | * Nose                      | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- |                   |        |
|-------------------|--------|
| * Harderian Gland | Vagina |
|-------------------|--------|

AUTO PRECLUDES DIAG.

- \* Thyroid Gland

OBSERVATIONS

- |                                                                                                                                                    |              |                                  |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                   |              | Angiectasis                      | Mild                |
|                                                                                                                                                    |              | Hematopoietic Cell Proliferation | Minimal             |
| * Bone Marrow                                                                                                                                      | Myeloid Cell | Hyperplasia                      | Moderate            |
| * Heart                                                                                                                                            |              | Inflammation                     | Chronic, Mild       |
| Note: hypertrophy and hyperplasia of mesothelial cells on epicardial surface, minimal mononuclear infiltrate in underlying epicardial interstitium |              |                                  |                     |
| * Liver                                                                                                                                            |              | Basophilic Focus                 |                     |
|                                                                                                                                                    |              | Clear Cell Focus                 | Multiple            |
|                                                                                                                                                    |              | Fatty Change                     | Minimal             |
|                                                                                                                                                    |              | Hematopoietic Cell Proliferation | Minimal             |
|                                                                                                                                                    | Hepatocyte   | Necrosis                         | Minimal             |
| Note: multifocal areas of hepatocellular necrosis with a minimal neutrophilic infiltrate<br>[ Clear Cell Focus TGLs = 6-23 ]                       |              |                                  |                     |
| * Lung                                                                                                                                             |              | Malignant Mixed Mullerian Tumor  | Metastatic (Uterus) |
| [ Malignant Mixed Mullerian Tumor TGLs = 9,10,11,12,13,14,15-25,+26+27+28+29 ]                                                                     |              |                                  |                     |
| Lymph Node                                                                                                                                         | Mediastinal  | Hemorrhage                       | Mild                |
|                                                                                                                                                    |              | Pigmentation                     | Hemosiderin, Mild   |
| [ Hemorrhage TGLs = 8-24 ]                                                                                                                         |              |                                  |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 233

TRT#: 2

SEX: Female

DAY ON TEST: 627

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105233

ORGAN AND ACCOUNTABLE SITE STATUS

[ Pigmentation TGLs = 8-24 ]

\* Pituitary Gland

Pars Distalis

Hyperplasia

Focal, Minimal

\* Spleen

Hematopoietic Cell Proliferation

Marked

Note: pancreas adjacent to spleen (TGL 3)

[ Hematopoietic Cell Proliferation TGLs = 2-6 ]

\* Thymus

Atrophy

Minimal

\* Uterus

Hyperplasia

Atypical, Minimal

Malignant Mixed Mullerian Tumor

[ Malignant Mixed Mullerian Tumor TGLs = 5-22 ]

PRIMARY CAUSE OF DEATH

- Uterus Malignant Mixed Mullerian Tumor

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 234

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105234

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-21, 4-22 ]		
* Lymph Node, Mesenteric		Hyperplasia	Lymphoid, Minimal
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	
	[ Adenoma TGLs = 2-1 ]		
	[ Cyst TGLs = 2-1 ]		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 235

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105235

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

Vagina

**OBSERVATIONS**

- |                   |                                                  |                                  |                     |
|-------------------|--------------------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex  |                                                  | Angiectasis                      | Moderate            |
|                   |                                                  | Hypertrophy                      | Focal, Minimal      |
| * Kidney          | Pelvis                                           | Mineralization                   | Minimal             |
| * Liver           |                                                  | Basophilic Focus                 | Multiple            |
|                   |                                                  | Clear Cell Focus                 | Multiple            |
|                   |                                                  | Fatty Change                     | Minimal             |
| * Lung            |                                                  | Infiltration Cellular            | Histiocyte, Minimal |
|                   | [ Infiltration Cellular TGLs = 7-23, 8-24, 8-2 ] |                                  |                     |
| * Mammary Gland   | Duct                                             | Cyst                             | Minimal             |
| Mesentery         | Fat                                              | Necrosis                         | Moderate            |
|                   | [ Necrosis TGLs = 4-22 ]                         |                                  |                     |
| * Pituitary Gland | Pars Distalis                                    | Adenoma                          |                     |
|                   | Pars Distalis                                    | Hyperplasia                      | Focal, Minimal      |
|                   | [ Adenoma TGLs = 2-1 ]                           |                                  |                     |
| * Spleen          |                                                  | Hematopoietic Cell Proliferation | Minimal             |
| * Thyroid Gland   | C Cell                                           | Hyperplasia                      | Minimal             |
| * Uterus          |                                                  | Hemorrhage                       | Marked              |
|                   | Endometrium                                      | Hyperplasia                      | Cystic, Moderate    |
|                   | [ Hemorrhage TGLs = 3-21 ]                       |                                  |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 236

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105236

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLs = 3-21 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 2-8-1 ]		
* Nose		Chondroma	
	Note: mass on a nasal turbinate composed of well differentiated chondrocytes and matrix (cartilage) and osteoid (possibly osteosarcoma, compound type)		
	Note: osteosarcoma is not an option		
	[ Chondroma TGLs = 5-9-1 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Stomach, Forestomach		Foreign Body	Minimal
	Epithelium	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 4-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

---

**ANIMAL ID:** 236

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105236

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Uterus	Follicular Cel Cervix	Hyperplasia Schwannoma Malignant	Minimal
----------	--------------------------	-------------------------------------	---------

Note: sheets of interlacing loosely arranged spindle to stellate cells within a slightly myxomatous stroma on the serosal surface of the uterus

Note: cystic spaces are present within the neoplasm, Antoni type A and B patterns present, neoplasm corresponds to a schwannoma, which is not an option

[ Schwannoma Malignant TGLs = 1-22 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 237

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105237

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Eye			
Note: only one eye present			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
Note: mass consisting of enlarged hepatocytes with microvesicular and macrovesicular vacuolization, compression of hepatocytes at periphery of adenoma			
[ Fatty Change TGLs = 9-27 ]			
[ Hepatocellular Adenoma TGLs = 4-24 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 8-25 ]			
Lymph Node	Axillary	Ectasia	Mild
	Axillary	Pigmentation	Minimal
[ Ectasia TGLs = 3-23 ]			
[ Pigmentation TGLs = 3-23 ]			
* Lymph Node, Mesenteric		Ectasia	Minimal
* Mammary Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 237

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105237

ORGAN AND ACCOUNTABLE SITE STATUS

[ Adenoma TGLs = 6-26 ]  
\* Salivary Glands Sublingual GI Adenocarcinoma Cyst Marked  
Note: cyst consists of a dense band of fibrous connective tissue adjacent to parotid salivary gland  
Note: lobulated mass of tubular to acinar structures lined by large mucus cells with basally located nuclei, cystic ducts rimmed by fibrous connective tissue  
[ Adenocarcinoma TGLs = 2-22 ]  
[ Cyst TGLs = 1-21 ]  
\* Spleen Hematopoietic Cell Proliferation Minimal  
\* Stomach, Glandular Mineralization Minimal  
\* Thymus Hemorrhage Mild  
[ Hemorrhage TGLs = 5-3 ]  
\* Thyroid Gland C Cell Hyperplasia Moderate  
Follicle Hypertrophy Minimal

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 238

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105238

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Liver	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Minimal
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 239

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105239

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Clitoral Gland	Inflammation	Chronic, Minimal
* Liver		

Note: 1 hepatocyte with microvesicular vacuolization

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 240

TRT#: 2

SEX: Female

DAY ON TEST: 585

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105240

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Bone	Femur	Osteosarcoma	
	[ Osteosarcoma TGLs = 3-22, 3-22-1, 3-22-2, 3-22-3, 3-22-4 ]		
* Eye	Retina	Atrophy	Minimal
* Kidney	Pelvis	Mineralization	Mild
* Liver		Basophilic Focus	Multiple
* Mammary Gland	Duct	Dilatation	Mild
		Galactoceles	Mild
		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1 ]		
* Ovary		Cyst	Mild
	Note: cystic enlargement of the ovarian bursa		
	[ Cyst TGLs = 2-7 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin		Osteosarcoma	Metastatic (Bone)
	Note: infiltration of femoral neoplasm into subcutis		
	[ Osteosarcoma TGLs = 4-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 240

TRT#: 2

SEX: Female

DAY ON TEST: 585

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105240

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

---

PRIMARY CAUSE OF DEATH

- Bone Femur Osteosarcoma

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**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 241

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105241

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Clitoral Gland	Duct	Cyst	Moderate
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Ovary	Follicle	Cyst	Multiple, Mild
Note: ovary with cyst on slide 7, tissue on slide 21 for TGL 1 was adipose tissue and not ovary			
* Spleen		Pigmentation	Minimal
* Thyroid Gland	Follicle	Cyst	
	C Cell	Hyperplasia	Mild
* Uterus	Cervix	Granular Cell Tumor Benign	

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 242

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105242

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Adenoma	
		Angiectasis	Moderate
* Clitoral Gland	Duct	Cyst	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
Lymph Node	Axillary	Hyperplasia	Lymphoid, Minimal
[ Hyperplasia TGLs = 1-21 ]			
* Lymph Node, Mandibular		Necrosis	Minimal
* Ovary			
Note: only one ovary present			
* Pancreas		Inflammation	Chronic, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 243

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105243

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Brain                  |
| * Clitoral Gland           | * Esophagus               | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Ovary                   | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           | * Uterus                 |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                                                         |               |                                       |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                        |               | Angiectasis                           | Mild                |
| * Eye                                                                                                                                   | Retina        | Atrophy                               | Mild                |
| * Heart                                                                                                                                 |               | Cardiomyopathy                        | Minimal             |
| * Kidney                                                                                                                                | Pelvis        | Mineralization                        | Minimal             |
| * Liver                                                                                                                                 |               | Angiectasis                           | Minimal             |
|                                                                                                                                         |               | Basophilic Focus                      | Multiple            |
|                                                                                                                                         |               | Clear Cell Focus                      | Multiple            |
|                                                                                                                                         |               | Eosinophilic Focus                    |                     |
| Note: TGL 21 is a clear cell focus with macrovesicular vacuolization<br>[ Angiectasis TGLs = 5-24 ]<br>[ Clear Cell Focus TGLs = 1-21 ] |               |                                       |                     |
| * Lung                                                                                                                                  |               | Infiltration Cellular                 | Histiocyte, Minimal |
|                                                                                                                                         |               | [ Infiltration Cellular TGLs = 6-25 ] |                     |
| Lymph Node                                                                                                                              | Inguinal      | Pigmentation                          | Mild                |
| Note: blackish brown granular to clumped pigment<br>[ Pigmentation TGLs = 2-23 ]                                                        |               |                                       |                     |
| * Mammary Gland                                                                                                                         |               | Hyperplasia                           | Minimal             |
| Mesentery                                                                                                                               | Fat           | Necrosis                              | Minimal             |
|                                                                                                                                         |               | [ Necrosis TGLs = 3-22 ]              |                     |
| * Pituitary Gland                                                                                                                       | Pars Distalis | Adenoma                               |                     |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 243

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105243

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: compression of adjacent tissue was not observed

[ Adenoma TGLs = 4-1 ]

\* Spleen

Pigmentation

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Minimal

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 244

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105244

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex	Accessory Adrenal Cortical Nodule	Minimal
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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 245

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105245

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Hypertrophy	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 5-1 ]			
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Mild
[ Pigmentation TGLs = 4-3 ]			
* Lymph Node, Mesenteric		Hemorrhage	Minimal
[ Hemorrhage TGLs = 7-5 ]			
* Mammary Gland	Duct	Dilatation	Mild
		Fibroadenoma	
		Hyperplasia	Mild
[ Dilatation TGLs = 2-8-1 ]			
[ Fibroadenoma TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 245

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105245

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLs = 6-1 ]

* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 246

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105246

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Lymph Node, Mandibular
- \* Ovary
- \* Skin
- \* Urinary Bladder
- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Stomach, Forestomach
- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Glandular
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Nose
- \* Salivary Glands
- \* Trachea

MISSING

Vagina

OBSERVATIONS

- \* Adrenal Cortex
    - [ Angiectasis TGLs = 2-10 ]
  - \* Kidney
    - [ Cyst TGLs = 3-22 ]
  - \* Liver
    - [ Infiltration Cellular TGLs = 4-21 ]
  - \* Parathyroid Gland
    - Note: well demarcated mass of a uniform population of cells with pale basophilic nuclei and indistinct cytoplasmic borders which compresses adjacent tissue
  - \* Spleen
  - \* Thymus
  - \* Thyroid Gland
    - C Cell
  - \* Uterus
    - [ Hyperplasia TGLs = 1-7 ]
- Angiectasis  
 Hyperplasia  
 Cyst  
 Mineralization  
 Basophilic Focus  
 Clear Cell Focus  
 Hyperplasia  
 Infiltration Cellular  
 Adenoma  
 Pigmentation  
 Atrophy  
 Hyperplasia  
 Hyperplasia
- Minimal  
 Focal, Minimal  
 Multiple  
 Minimal  
 Multiple  
 Multiple  
 Minimal  
 Histiocyte, Minimal  
 Minimal  
 Minimal  
 Minimal  
 Cystic, Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 247

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105247

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Eye			
Note: optic nerve missing			
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Mild
* Nose			
Note: chronic-active inflammation in region of tooth			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 248

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105248

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Adrenal Medulla		Pheochromocytoma Complex	
Note: well circumscribed mass compressing adjacent medulla and cortex. mass consists of a mixture of pheochromocytes and ganglion cells			
Note: ganglion cells were large polyhedral to angular cells with abundant eosinophilic cytoplasm			
Note: pheochromocytes were polygonal cells, with indistinct cytoplasmic borders and round to ovoid, vesicular nuclei, mitoses were rare			
* Clitoral GI			
Note: only one clitoral gland present			
* Heart		Cardiomyopathy	Minimal
* Kidney		Casts Protein	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Pituitary Gland	Pars Distalis	Cyst	
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 249

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105249

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 250

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105250

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 4-1-1 ]		
* Eye	Retina	Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Transit Epithe	Hyperplasia	Mild
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Moderate
* Liver		Nephropathy	Minimal
		Basophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
	Note: lymphocytic focus		
	[ Hepatodiaphragmatic Nodule TGLs = 1-21 ]		
* Mammary Gland	Duct	Dilatation	Mild
	[ Dilatation TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 250

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105250

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 5-1 ]			
* Spleen		Hematopoietic Cell Proliferation Pigmentation	Minimal Minimal
* Thyroid Gland	Follicular Cel Follicle C Cell	Adenoma Cyst Hyperplasia	  Mild
[ Adenoma TGLs = 3-22 ]			
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 251

TRT#: 2

SEX: Female

DAY ON TEST: 92

DOSE: 0 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105251

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Liver	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	Oral Mucosa
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Clitoral Gland	Inflammation	Chronic, Minimal
* Liver		
Note: 1 hepatocyte with microvesicular vacuolization		
* Pancreas		
Note: focal area of chronic inflammation in attached mesentery		

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 252

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105252

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Marked
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-22 ]		
* Lymph Node, Mandibular		Hemorrhage	Moderate
	[ Hemorrhage TGLs = 2-8 ]		
* Mammary Gland		Carcinoma	
	Duct	Dilatation	Minimal
	[ Carcinoma TGLs = 1-21 ]		
* Nose			
	Note: pyogranulomatous (chronic-active) inflammation in oral mucosa with foreign material		
* Pituitary Gland	Pars Distalis	Adenoma	
	Note: neoplasm invades pars nervosa - neoplasm consists of large eosinophilic cells with large, anisokaryotic nuclei and large nucleoli, a few large bizarre cells		
	[ Adenoma TGLs = 4-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Adenoma	Multiple

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 252

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105252

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 253

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105253

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	
	Bile Duct	Cyst	Multiple, Minimal
Note: possible hepatodiaphragmatic nodule on slide 23 [ Cyst TGLs = 2-22 ]			
* Mammary Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 254

TRT#: 2

SEX: Female

DAY ON TEST: 508

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105254

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
	[ Angiectasis TGLs = 2-10 ]		
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Fibrosis	Mild
	Oval Cell	Hyperplasia	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Granulomatous, Moderate
Note: Numerous brown pigmented epithelioid macrophages and a few multinucleate giant cells, bile ducts encircled by fibrous connective tissue were present in site			
Note: scattered bile ducts rimmed by fibrous connective tissue within area of granulomatous inflammation			
Note: mesentery attached to focus of granulomatous inflammation, hepatocytes on periphery of granulomatous inflammation			
	[ Inflammation TGLs = 7-23 ]		
* Lymph Node, Mesenteric		Inflammation	Acute, Minimal
* Mammary Gland		Fibroadenoma	Multiple
	Note: fibroadenoma also on slide 8-1		
	[ Fibroadenoma TGLs = 1-21 ]		
Mesentery		Congestion	Mild
		Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 254

TRT#: 2

SEX: Female

DAY ON TEST: 508

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105254

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Congestion TGLs = 3-22 ]

\* Ovary

Follicle

Cyst

Moderate

Cyst

Mild

Note: cyst of ovarian bursa

[ Cyst TGLs = 6-24 ]

[ Cyst TGLs = 10-25 ]

\* Stomach, Glandular

Mineralization

Minimal

Note: mucosa and blood vessels

\* Thymus

Note: multiple cystic ducts with eosinophilic contents

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

\* Uterus

Adenoma

Angiectasis

Mild

Hyperplasia

Atypical, Minimal

Inflammation

Chronic, Moderate

Note: adenoma is an exophytic and papillary structure, also diffuse hypertrophy and hyperplasia of the endometrium

PRIMARY CAUSE OF DEATH

- Mammary Gland Fibroadenoma



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 255

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105255

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Marked
[ Angiectasis TGLs = 1-10 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Lymph Node, Mesenteric		Ectasia	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Mild
		Hyperplasia	Atypical, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 256

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105256

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
Note: only one adrenal gland present			
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
Note: clear cell foci also present on slide 6			
[ Clear Cell Focus TGLs = 2-21 ]			
* Mammary Gland		Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 257

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105257

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-21, 4-22, 5-23 ]		
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland	Duct	Dilatation	Mild
	[ Dilatation TGLs = 1-8-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	Follicle	Cyst	Multiple
	C Cell	Hyperplasia	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

Note: Uterus TGL 2 = No Correlating Lesion per NTP Path.

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 258

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105258

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLs = 7-24 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Lymph Node, Mesenteric		Hemangiosarcoma	
		Pigmentation	Hemosiderin, Mild
	[ Hemangiosarcoma TGLs = 2-5 ]		
	[ Pigmentation TGLs = 4-22 ]		
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1, 3-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	Multiple
	[ Adenoma TGLs = 5-1 ]		
* Skin		Fibrosis	Minimal
	Note: adnexa and hair follicles sparse in area of dermal fibrosis		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 258

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105258

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Fibrosis TGLs = 6-23 ]

\* Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 259

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105259

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

MISSING

Vagina

AUTO PRECLUDES DIAG.

\* Intestine Small, Jejunum      \* Thyroid Gland

OBSERVATIONS

* Adrenal Cortex	Angiectasis	Minimal
[ Hypertrophy    TGLs = 2-10 ]	Hypertrophy	Focal, Minimal
* Liver	Basophilic Focus	Multiple
Hepatocyte	Fatty Change	Minimal
Note: multifocal coagulative necrosis of hepatocytes with minimal acute inflammation and individual hepatocellular necrosis	Necrosis	Mild
[ Necrosis    TGLs = 4-6 ]		
* Lung	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular    TGLs = 5-22 ]		
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma    TGLs = 1-21, 1-21-1 ]		
* Pancreas	Atrophy	Minimal
* Spleen	Hematopoietic Cell Proliferation	Mild

Note: the large basophilic cells had large nuclei and nucleoli, mitoses present, possibly focal hyperplasia

Note: 2 basophilic , hypercellular, wedge-shaped areas with erythroid and myeloid cells, macrophages, megakaryocytes, and large basophilic cells with large nuclei

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 259

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105259

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Moderate

\* Uterus

Note: Uterus TGL 3 = No correlating lesion per NTP Path.

---

PRIMARY CAUSE OF DEATH

- Mammary Gland Fibroadenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 260

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105260

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
Note: eosinophilic material - Congo Red stain negative			
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
	[ Eosinophilic Focus TGLs = 4-24 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-22, 3-23 ]		
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland	Duct	Dilatation	Minimal
		Fibroadenoma	
		Hyperplasia	Minimal
	[ Fibroadenoma TGLs = 1-21 ]		
* Ovary		Atrophy	Mild
		Granulosa Cell Tumor Benign	
Note: cells in follicles and nests with large round to ovoid nuclei , minimal eosinophilic cytoplasm and indistinct cytoplasmic borders, 0-1 mitoses/ 400x field			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 260

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105260

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
	[ Hyperplasia TGLs = 5-7 ]		

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 261

TRT#: 2

SEX: Female

DAY ON TEST: 522

DOSE: 0 MG/KG

DISP: Dosing Accident

HISTO: 110520105261

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
Ear	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Skin
* Stomach, Glandular	* Thymus	* Urinary Bladder	* Uterus

MISSING

\* Trachea Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
Note: also observed on slide 2			
	[ Infiltration Cellular TGLs = 7-23, 8-24 ]		
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Minimal
	[ Pigmentation TGLs = 1-3 ]		
* Pituitary Gland	Pars Intermed	Adenoma	
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
Tissue NOS		Abscess	Marked

Note: fibrous connective tissue capsule encircling degenerate and karyorrhectic neutrophils, abscess on pleural surface of lung and within mediastinum

[ Abscess TGLs = 3-21, 3-22, 5-21, 5-22 ]

PRIMARY CAUSE OF DEATH - Tissue NOS Abscess

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 262

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 92

**DOSE:** 0 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105262

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

**OBSERVATIONS**

* Adrenal Cortex	Accessory Adrenal Cortical Nodule	Minimal
* Clitoral Gland	Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 263

TRT#: 2

SEX: Female

DAY ON TEST: 592

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105263

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Brain                   | * Clitoral Gland            |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

**MISSING**

Vagina

**OBSERVATIONS**

- |                      |              |                                  |          |
|----------------------|--------------|----------------------------------|----------|
| * Adrenal Cortex     |              | Angiectasis                      | Marked   |
| * Bone Marrow        | Myeloid Cell | Hyperplasia                      | Mild     |
| * Kidney             |              | Nephropathy                      | Minimal  |
| * Liver              |              | Basophilic Focus                 | Multiple |
|                      |              | Clear Cell Focus                 | Multiple |
|                      |              | Fatty Change                     | Minimal  |
|                      |              | Hematopoietic Cell Proliferation | Minimal  |
| * Spleen             |              | Hematopoietic Cell Proliferation | Marked   |
| * Stomach, Glandular |              | Mineralization                   | Minimal  |
| * Thyroid Gland      | C Cell       | Adenoma                          |          |
|                      | C Cell       | Hyperplasia                      | Minimal  |
| * Uterus             |              | Polyp Stromal                    |          |

[ Polyp Stromal TGLs = 1-21 ]

PRIMARY CAUSE OF DEATH

- Uterus Polyp Stromal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 264

TRT#: 2

SEX: Female

DAY ON TEST: 708

DOSE: 0 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105264

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Brain		Compression	Moderate
	[ Compression TGLs = 6-1 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 3-8-1 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 2-21, 4-22 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Duct, Submandibul GI	Inflammation	Acute, Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
	Note: hyaline droplets in ducts of parotid salivary gland		
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

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**ANIMAL ID:** 264

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105264

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: one lobule of the thymus had multiple clear spaces present within the parenchyma and a slight increase in fibrous connective tissue

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

---

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Pars Distalis Adenoma

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 265

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105265

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Minimal
* Adrenal Medulla		Pheochromocytoma Benign	
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 266

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105266

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Moderate
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Mild
* Mammary Gland	Duct	Dilatation	Minimal
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 267

TRT#: 2

SEX: Female

DAY ON TEST: 37

DOSE: 0 MG/KG

DISP: Dosing Accident

HISTO: 110520105267

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Eye	* Harderian Gland
* Intestine Large, Colon	* Intestine Large, Rectum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Urinary Bladder	* Uterus	

MISSING

Vagina

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Thyroid Gland	* Trachea		

OBSERVATIONS

Blood Vessel		Inflammation	Acute, Moderate
Note: fibrinopurulent inflammation, bacteria and foreign material in connective tissue adjacent to aorta			
* Esophagus		Inflammation	Chronic Active, Moderate
Note: foreign material present			
[ Inflammation TGLs = 4-21 ]			
* Heart	Epicardium	Inflammation	Chronic Active, Mild
* Kidney		Hydronephrosis	Moderate
* Liver		Fatty Change	Minimal
* Lung	Serosa	Inflammation	Acute, Mild
[ Inflammation TGLs = 6-2 ]			
Tissue NOS		Inflammation	Chronic Active, Mild
Note: diaphragm, lung - fibrinopurulent exudate			
[ Inflammation TGLs = 3-23 ]			

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 268

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105268

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Eye	Retina	Atrophy	Mild
* Kidney	Transit Epithe	Hyperplasia	Minimal
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Mammary Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 269

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105269

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                          |                             |                           |                         |
|--------------------------|-----------------------------|---------------------------|-------------------------|
| * Adrenal Cortex         |                             | Angiectasis               | Mild                    |
|                          |                             | Vacuolization Cytoplasmic | Minimal                 |
| * Kidney                 | Transit Epithe              | Hyperplasia               | Minimal                 |
|                          | Pelvis                      | Inflammation              | Chronic Active, Minimal |
|                          | Pelvis                      | Mineralization            | Mild                    |
| * Liver                  |                             | Basophilic Focus          | Multiple                |
|                          |                             | Clear Cell Focus          | Multiple                |
|                          | Bile Duct                   | Hyperplasia               | Mild                    |
| * Lymph Node, Mandibular |                             | Ectasia                   | Minimal                 |
|                          |                             | Hemorrhage                | Mild                    |
|                          | [ Hemorrhage TGLs = 2-8 ]   |                           |                         |
| * Mammary Gland          | Duct                        | Dilatation                | Mild                    |
|                          |                             | Hyperplasia               | Minimal                 |
|                          | [ Dilatation TGLs = 1-8-1 ] |                           |                         |
| * Ovary                  |                             | Cyst                      | Moderate                |
| Note: bursa              |                             |                           |                         |
|                          | [ Cyst TGLs = 3-7 ]         |                           |                         |
| * Pituitary Gland        | Pars Distalis               | Adenoma                   |                         |
|                          | Pars Distalis               | Hyperplasia               | Focal, Mild             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 269

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105269

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Hematopoietic Cell Proliferation

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 270

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105270

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Clitoral Gland		Inflammation	Chronic, Minimal
[ Inflammation TGLs = 1-8 ]			
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Congestion	Minimal
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
[ Congestion TGLs = 5-23 ]			
Lymph Node	Mediastinal	Hemorrhage	Minimal
	Mediastinal	Pigmentation	Hemosiderin, Mild
[ Hemorrhage TGLs = 6-24 ]			
[ Pigmentation TGLs = 6-24 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 270

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105270

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mesenteric [ Hemangiosarcoma TGLs = 4-22 ]		Hemangiosarcoma	
* Mammary Gland [ Fibroadenoma TGLs = 2-21 ]		Fibroadenoma Hyperplasia	Minimal
* Ovary Note: bursa [ Cyst TGLs = 3-7 ]		Cyst	Moderate
* Pituitary Gland [ Adenoma TGLs = 7-1 ]	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation Pigmentation	Minimal Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 271

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 92

**DOSE:** 0 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105271

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Uterus			

**INSUFFICIENT TISSUE**

\* Urinary Bladder

**OBSERVATIONS**

\* Urin Bladder

Note: minimal mucosa present

\* Uterus

Note: uterine lumen dilatation and a few neutrophils within the endometrium correspond to a physiologic change

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 272

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105272

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
	[ Angiectasis TGLs = 2-10 ]		
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Hepatocellular Adenoma	Multiple
	[ Hepatocellular Adenoma TGLs = 5-22 ]		
* Mammary Gland		Hyperplasia	Mild
* Ovary	Follicle	Cyst	Marked
	[ Cyst TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Hyperplasia TGLs = 4-1 ]		
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 272

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105272

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Note: uterine lumen is dilated

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 273

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105273

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Hematopoietic Cell Proliferation	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
		Fibroadenoma	
	[ Fibroadenoma TGLs = 1-21 ]		
* Ovary		Cyst	Mild
	Note: bursal cyst		
	[ Cyst TGLs = 5-7, 6-24 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Skin		Basal Cell Adenoma	
		Ulcer	Mild

Note: lobulated mass in dermis and subcutis consisting of a uniform population of basal cells with round nuclei and clear cytoplasm arranged in clusters

Note: 2-4 mitoses per 400x field were present in the neoplasm

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 273

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105273

ORGAN AND ACCOUNTABLE SITE STATUS

Note: many clusters of basal cells were cystic or the center of the clusters was necrotic, consisting of eosinophilic debris and neutrophils, epidermis ulcerated

[ Basal Cell Adenoma TGLs = 2-22 ]

[ Ulcer TGLs = 3-22 ]

\* Spleen

Accessory Spleen

Minimal

Hematopoietic Cell Proliferation

Mild

Pigmentation

Minimal

Note: best fit diagnosis, corresponds to nodule of normal splenic tissue attached to spleen

[ Accessory Spleen TGLs = 4-23 ]

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 274

TRT#: 2

SEX: Female

DAY ON TEST: 646

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105274

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Rectum	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Skin
* Stomach, Forestomach			

**MISSING**

Vagina

**AUTO PRECLUDES DIAG.**

* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Stomach, Glandular	* Thyroid Gland	* Trachea	

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Vacuolization Cytoplasmic	Moderate
* Islets, Pancreatic		Hyperplasia	Minimal
		Pigmentation	Hemosiderin, Minimal
* Kidney		Calculus Gross Observation	
	Pelvis	Inflammation	Chronic Active, Moderate
		Inflammation	Chronic, Mild

Note: neutrophils and mineralization/bacteria in pelvis, neutrophils, and lymphocytes in adjacent parenchyma, lymphocytic foci in cortex, neutrophils in medulla

Note: Calcium stain (von Kossa) for mineralization was positive, bacteria were gram positive with the gram stain

[ Calculus Gross Observation TGLs = 4 ]

[ Inflammation TGLs = 1-5 ]

* Liver		Basophilic Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
* Mammary Gland		Degeneration	Fatty, Mild
		Hyperplasia	Minimal

Note: encapsulated foci of adipose tissue, adipocytes contain small vacuoles, basophilic globular material in encapsulated fat foci

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 274

TRT#: 2

SEX: Female

DAY ON TEST: 646

DOSE: 0 MG/KG

DISP: Natural Death

HISTO: 110520105274

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Degeneration TGLs = 6-23 ]

Mesentery

Fat

Necrosis

Minimal

[ Necrosis TGLs = 2-21 ]

\* Salivary Glands

Duct, Parotid GI

Inflammation

Acute, Minimal

\* Spleen

Pigmentation

Mild

\* Thymus

Atrophy

Moderate

Tooth

Inflammation

Chronic, Minimal

Ureter

Transit Epithe

Hyperplasia

Mild

\* Urinary Bladder

Transit Epithe

Hyperplasia

Mild

\* Uterus

Endometrium

Inflammation

Chronic Active, Minimal

Hyperplasia

Cystic, Minimal

PRIMARY CAUSE OF DEATH

- Kidney Pelvis Inflammation

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 275

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105275

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Bone Marrow	Myeloid Cell	Hyperplasia	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Mild
Mesentery		Granulosa Cell Tumor Malignant	Metastatic (Ovary)
	[ Granulosa Cell Tumor Malignant TGLs = 3-22, 7-26, 8-27, 9-28, 10-29 ]		
* Ovary		Granulosa Cell Tumor Malignant	
	Note: solid sheets of cells with round to oval nuclei and moderate amounts of eosinophilic cytoplasm arranged in variably-sized irregularly shaped lobules		
	[ Granulosa Cell Tumor Malignant TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Adenoma	Multiple
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Minimal
Skeletal Muscle		Granulosa Cell Tumor Malignant	Metastatic (Ovary)
	[ Granulosa Cell Tumor Malignant TGLs = 4-23, 5-24, 6-25 ]		
* Spleen	Capsule	Fibrosis	Focal, Mild
		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 275

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105275

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 276

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105276

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
* Pancreas		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 277

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105277

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Mild
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 1-8-1 ]		
* Nose			
	Note: chronic active inflammation with foreign material near mucosa		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 278

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105278

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Mammary Gland           | * Nose                      |
| * Ovary                  | * Pancreas                 | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Trachea                 | * Urinary Bladder           |

**MISSING**

Vagina

**INSUFFICIENT TISSUE**

- \* Parathyroid Gland

**OBSERVATIONS**

- |                                |               |                                  |                         |
|--------------------------------|---------------|----------------------------------|-------------------------|
| * Adrenal Cortex               |               | Angiectasis                      | Mild                    |
|                                |               | Hemorrhage                       | Mild                    |
| * Eye                          |               |                                  |                         |
| Note: optic nerve not present  |               |                                  |                         |
| * Heart                        |               | Cardiomyopathy                   | Minimal                 |
| * Kidney                       |               | Casts Protein                    | Minimal                 |
|                                | Pelvis        | Inflammation                     | Chronic Active, Minimal |
|                                | Pelvis        | Mineralization                   | Minimal                 |
| * Liver                        |               | Basophilic Focus                 | Multiple                |
| * Pituitary Gland              | Pars Distalis | Adenoma                          |                         |
|                                | Pars Distalis | Hyperplasia                      | Focal, Minimal          |
| * Salivary Glands              | Parotid GI    | Inflammation                     | Chronic, Minimal        |
| * Spleen                       |               | Hematopoietic Cell Proliferation | Minimal                 |
| * Thyroid Gland                | C Cell        | Hyperplasia                      | Minimal                 |
| Note: only one thyroid present |               |                                  |                         |
| * Uterus                       | Endometrium   | Hyperplasia                      | Cystic, Marked          |

[ Hyperplasia TGLs = 1-21 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 279

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105279

### ORGAN AND ACCOUNTABLE SITE STATUS

#### NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Trachea	* Urinary Bladder	

#### MISSING

Vagina

#### OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Mild
* Brain		Cyst	
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
* Mammary Gland	Duct	Dilatation	Minimal
		Fibroadenoma	
		Hyperplasia	Mild
		[ Dilatation TGLs = 2-8-1 ]	
		[ Fibroadenoma TGLs = 1-21 ]	
* Pituitary Gland	Pars Distalis	Adenoma	
		[ Adenoma TGLs = 3-1 ]	
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 280

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: 0 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105280

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Esophagus
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Clitoral Gland                      Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
[ Compression    TGLs = 5-1 ]			
* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Minimal
* Mammary Gland	Duct	Dilatation	Mild
		Fibroadenoma	
		Hyperplasia	Mild
[ Dilatation    TGLs = 3-8-1 ]			
[ Fibroadenoma    TGLs = 1-21 ]			
[ Hyperplasia    TGLs = 3-8-1 ]			
* Parathyroid GI			
Note: parathyroid gland present in the thymus, but not in thyroid sections			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma    TGLs = 6-1 ]			
* Spleen		Pigmentation	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 281

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105281

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin		Inflammation	Chronic, Mild
* Spleen		Pigmentation	Minimal
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 1-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 282

TRT#: 4

SEX: Female

DAY ON TEST: 708

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105282

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 8-1 ]		
* Eye		Developmental Malformation	
	Note: eye smaller, lens absent, cornea thickened and edematous, bulbous protrusion of cornea and anterior chamber, retinal folding		
	[ Developmental Malformation TGLs = 10-44 ]		
* Kidney		Nephropathy	Minimal
* Liver		Eosinophilic Focus	Multiple
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Marked
	[ Eosinophilic Focus TGLs = 1-6 ]		
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Mild
	[ Pigmentation TGLs = 7-3 ]		
* Lymph Node, Mandibular		Pigmentation	Hemosiderin, Mild
* Lymph Node, Mesenteric		Pigmentation	Hemosiderin, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
		Hyperplasia	Mild
	[ Hyperplasia TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 9-1-1 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 282

TRT#: 4

SEX: Female

DAY ON TEST: 708

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105282

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 283

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105283

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Stomach, Forestomach   | * Stomach, Glandular       | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                               |               |                                  |          |
|-------------------------------|---------------|----------------------------------|----------|
| * Adrenal Cortex              |               | Angiectasis                      | Mild     |
| * Kidney                      | Pelvis        | Mineralization                   | Minimal  |
| * Liver                       |               | Basophilic Focus                 |          |
|                               |               | Clear Cell Focus                 |          |
|                               | Hepatocyte    | Hypertrophy                      | Mild     |
| [ Hypertrophy TGLs = 5-6 ]    |               |                                  |          |
| * Mammary Gland               | Duct          | Dilatation                       | Mild     |
| [ Dilatation TGLs = 1-8-1 ]   |               |                                  |          |
| * Pituitary Gland             | Pars Distalis | Cyst                             | Multiple |
| * Spleen                      |               | Hematopoietic Cell Proliferation | Minimal  |
| * Thymus                      |               | Atrophy                          | Minimal  |
| * Thyroid Gland               | C Cell        | Hyperplasia                      | Mild     |
|                               | Follicle      | Hypertrophy                      | Minimal  |
| * Uterus                      |               | Polyp Stromal                    |          |
| [ Polyp Stromal TGLs = 2-21 ] |               |                                  |          |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 284

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105284

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Minimal
* Intestine Small, Duodenum		Leiomyosarcoma	
	[ Leiomyosarcoma TGLs = 1-21 ]		
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hematopoietic Cell Proliferation	Minimal
	Hepatocyte	Hypertrophy	Mild
		Necrosis	Minimal
	Note: neutrophilic infiltrate in site of hepatocellular necrosis		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
	[ Fibroadenoma TGLs = 2-22 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Marked
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 284

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105284

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 285

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105285

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Kidney	Pelvis	Mineralization	Minimal
	[ Mineralization TGLs = 2-21, 3-5, 2-5 ]		
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Minimal
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1 ]		
* Spleen		Pigmentation	Minimal
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 4-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 286

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105286

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                                            |                |                |                         |
|--------------------------------------------|----------------|----------------|-------------------------|
| * Adrenal Cortex                           |                | Angiectasis    | Minimal                 |
| * Kidney                                   | Pelvis         | Inflammation   | Chronic Active, Minimal |
|                                            | Pelvis         | Mineralization | Minimal                 |
| * Liver                                    | Bile Duct      | Hyperplasia    | Mild                    |
|                                            | Hepatocyte     | Hypertrophy    | Mild                    |
| * Lymph Node, Mesenteric                   |                | Hemorrhage     | Mild                    |
|                                            |                |                |                         |
|                                            |                |                |                         |
|                                            |                |                |                         |
| * Mammary Gland                            | Duct           | Dilatation     | Mild                    |
|                                            |                |                |                         |
|                                            |                |                |                         |
| * Nose                                     |                |                |                         |
|                                            |                |                |                         |
|                                            |                |                |                         |
| Note: acute inflammation adjacent to tooth |                |                |                         |
| * Ovary                                    |                | Cyst           | Moderate                |
|                                            |                |                |                         |
|                                            |                |                |                         |
|                                            |                |                |                         |
| * Pituitary Gland                          | Pars Distalis  | Adenoma        |                         |
|                                            |                |                |                         |
|                                            |                |                |                         |
| * Spleen                                   |                | Pigmentation   | Minimal                 |
| * Thyroid Gland                            | C Cell         | Hyperplasia    | Minimal                 |
|                                            | Follicular Cel | Hyperplasia    | Minimal                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 286

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105286

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 287

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105287

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
[ Hepatodiaphragmatic Nodule	TGLs = 1-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular	TGLs = 3-22 ]		
* Lymph Node, Mesenteric		Hemorrhage	Moderate
* Mammary Gland	Duct	Dilatation	Mild
[ Dilatation	TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Intermed	Hyperplasia	Focal, Mild
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 288

TRT#: 4

SEX: Female

DAY ON TEST: 619

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105288

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 3-1-1 ]		
* Eye	Retina	Atrophy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Marked
	Note: hepatocyte hypertrophy difficult to evaluate because of the marked, predominantly macrovesicular, cytoplasmic vacuolization of hepatocytes		
* Mammary Gland	Duct	Dilatation	Mild
	[ Dilatation TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild
	[ Hyperkeratosis TGLs = 5-21 ]		
	[ Hyperplasia TGLs = 5-21 ]		
* Thymus		Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 288

TRT#: 4

SEX: Female

DAY ON TEST: 619

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105288

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 289

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105289

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           | * Uterus                 |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                   |                                        |                                  |                     |
|-------------------|----------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex  |                                        | Angiectasis                      | Mild                |
| * Kidney          | Pelvis                                 | Mineralization                   | Minimal             |
|                   |                                        | Nephropathy                      | Minimal             |
| * Liver           |                                        | Basophilic Focus                 | Multiple            |
|                   |                                        | Clear Cell Focus                 |                     |
|                   |                                        | Hepatocellular Adenoma           |                     |
|                   | Bile Duct                              | Hyperplasia                      | Minimal             |
|                   | Hepatocyte                             | Hypertrophy                      | Mild                |
|                   | [ Hepatocellular Adenoma TGLs = 1-21 ] |                                  |                     |
| * Lung            | Alveolar Epith                         | Hyperplasia                      | Minimal             |
|                   |                                        | Infiltration Cellular            | Histiocyte, Minimal |
|                   | [ Infiltration Cellular TGLs = 5-23 ]  |                                  |                     |
| * Mammary Gland   |                                        | Hyperplasia                      | Minimal             |
|                   | [ Hyperplasia TGLs = 2-8-1 ]           |                                  |                     |
| Mesentery         | Fat                                    | Necrosis                         | Minimal             |
|                   | [ Necrosis TGLs = 3-22 ]               |                                  |                     |
| * Pituitary Gland | Pars Distalis                          | Adenoma                          |                     |
|                   | [ Adenoma TGLs = 4-1 ]                 |                                  |                     |
| * Spleen          |                                        | Hematopoietic Cell Proliferation | Mild                |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 289

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105289

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Pigmentation

Minimal

Hyperplasia

Mild

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 290

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105290

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Trachea                | * Urinary Bladder          | * Uterus                  |

MISSING

Vagina

OBSERVATIONS

- |                  |                                       |                                  |                     |
|------------------|---------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex |                                       | Angiectasis                      | Mild                |
| * Liver          |                                       | Basophilic Focus                 | Multiple            |
|                  |                                       | Clear Cell Focus                 | Multiple            |
|                  | Hepatocyte                            | Hypertrophy                      | Mild                |
| * Lung           |                                       | Infiltration Cellular            | Histiocyte, Minimal |
|                  | [ Infiltration Cellular TGLs = 2-21 ] |                                  |                     |
| * Mammary Gland  |                                       | Hyperplasia                      | Minimal             |
|                  | [ Hyperplasia TGLs = 1-8-1 ]          |                                  |                     |
| * Spleen         |                                       | Hematopoietic Cell Proliferation | Minimal             |
| * Thyroid Gland  | C Cell                                | Hyperplasia                      | Mild                |

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 291

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105291

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Clitoral Gland		Inflammation	Chronic, Minimal
	[ Inflammation TGLs = 1-21 ]		
* Eye	Retina	Atrophy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
	[ Hyperplasia TGLs = 5-23 ]		
	[ Infiltration Cellular TGLs = 4-22 5-23, 6-24 ]		
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 2-8-1 ]		
* Nose		Inflammation	Acute, Mild
* Ovary	Follicle	Cyst	Minimal
* Spleen		Pigmentation	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 3-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 292

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105292

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 4-2 ]		
* Mammary Gland		Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 3-21 ]		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	Multiple
	[ Polyp Stromal TGLs = 1-7, 2-7 ]		

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 293

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105293

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
	[ Fatty Change TGLs = 3-21 ]		
	Lymph Node	Pigmentation	Hemosiderin, Mild
	[ Pigmentation TGLs = 1-3 ]		
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 2-8-1 ]		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 294

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105294

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Mild
[ Dilatation TGLs = 1-8-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 295

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105295

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-21, 3-22 ]		
* Mammary Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 1-1 ]		
* Thyroid Gland	C Cell	Adenoma	Multiple
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 296

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105296

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Heart	Endocardium	Schwannoma Benign	
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 297

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105297

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Spleen		Accessory Spleen	
Note: lesion corresponds to a cyst on the capsular surface, cyst was not an option [ Accessory Spleen TGLs = 1-21 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
[ Hyperplasia TGLs = 2-7 ]			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 298

TRT#: 4

SEX: Female

DAY ON TEST: 694

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105298

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
		Lymphoma Malignant	
		Mixed Cell Focus	
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mediastinal	Ectasia	Moderate
	Mediastinal	Hemorrhage	Moderate
		[ Hemorrhage TGLs = 4-23 ]	
* Lymph Node, Mandibular		Ectasia	Moderate
		[ Ectasia TGLs = 1-8 ]	
* Lymph Node, Mesenteric		Ectasia	Moderate
		[ Ectasia TGLs = 2-5 ]	
* Mammary Gland	Duct	Dilatation	Minimal
		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Skin	Epidermis	Hyperplasia	Moderate
		Inflammation	Chronic Active, Mild
		[ Hyperplasia TGLs = 7-22 ]	
		[ Inflammation TGLs = 7-22 ]	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 298

TRT#: 4

SEX: Female

DAY ON TEST: 694

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105298

ORGAN AND ACCOUNTABLE SITE STATUS

* Spleen		Hematopoietic Cell Proliferation	Mild
* Thymus		Lymphoma Malignant	
Note: slide 21, thymus effaced by lymphoma			
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
Tissue NOS	Mediastinum	Lymphoma Malignant	
Note: thymus effaced by a relatively uniform population of small neoplastic lymphocytes			
[ Lymphoma Malignant TGLs = 6-21 ]			

PRIMARY CAUSE OF DEATH - Tissue NOS Mediastinum Lymphoma Malignant

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 299

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105299

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Minimal
		Fatty Change	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
	[ Cyst TGLs = 3-23 ]		
	[ Fatty Change TGLs = 4-24 ]		
	[ Hepatodiaphragmatic Nodule TGLs = 2-22 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-25,6-26, 7-27 ]		
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Minimal
	[ Fibroadenoma TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 299

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105299

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Adenoma

Multiple

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 300

TRT#: 4

SEX: Female

DAY ON TEST: 687

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105300

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  |
| * Mammary Gland             | * Nose                   | * Pancreas                 | * Parathyroid Gland       |
| * Pituitary Gland           | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Trachea                   | * Urinary Bladder        | * Uterus                   |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                                             |                  |                           |                |
|-----------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|----------------|
| * Adrenal Cortex                                                                                                            |                  | Angiectasis               | Minimal        |
|                                                                                                                             |                  | Hypertrophy               | Focal, Minimal |
| * Liver                                                                                                                     |                  | Basophilic Focus          |                |
|                                                                                                                             |                  | Fatty Change              | Moderate       |
|                                                                                                                             | Hepatocyte       | Hypertrophy               | Marked         |
| Mesentery                                                                                                                   | Fat              | Necrosis                  | Minimal        |
| [ Necrosis TGLs = 2-21 ]                                                                                                    |                  |                           |                |
| * Ovary                                                                                                                     |                  | Cyst                      | Mild           |
|                                                                                                                             |                  | Leiomyosarcoma            |                |
| Note: bursal cyst                                                                                                           |                  |                           |                |
| Note: scattered foci of necrosis consisting of eosinophilic debris in neoplasm, cystic spaces in neoplasm                   |                  |                           |                |
| Note: mass consisting of interlacing and whorling spindle-shaped cells with indistinct cytoplasmic borders and ovoid nuclei |                  |                           |                |
| [ Cyst TGLs = 3-7 ]                                                                                                         |                  |                           |                |
| [ Leiomyosarcoma TGLs = 4-22 ]                                                                                              |                  |                           |                |
| * Salivary Glands                                                                                                           | Parotid GI       | Atrophy                   | Mild           |
|                                                                                                                             | Duct, Parotid GI | Inflammation              | Acute, Minimal |
|                                                                                                                             | Parotid GI       | Vacuolization Cytoplasmic | Mild           |
| * Spleen                                                                                                                    | Lymph Follic     | Atrophy                   | Minimal        |
|                                                                                                                             |                  | Pigmentation              | Mild           |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 300

TRT#: 4

SEX: Female

DAY ON TEST: 687

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105300

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Atrophy TGLs = 1-6 ]

\* Thymus

Atrophy

Marked

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicular Cel

Hyperplasia

Minimal

Follicle

Hypertrophy

Mild

PRIMARY CAUSE OF DEATH

- Ovary Leiomyosarcoma



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 301

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105301

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Clitoral Gland            |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**OBSERVATIONS**

- |                   |                             |                            |                         |
|-------------------|-----------------------------|----------------------------|-------------------------|
| * Adrenal Cortex  |                             | Angiectasis                | Minimal                 |
|                   |                             | Hyperplasia                | Focal, Minimal          |
|                   |                             | Vacuolization Cytoplasmic  | Minimal                 |
| * Brain           | [ Hyperplasia TGLs = 1-21 ] |                            |                         |
|                   | [ Compression TGLs = 3-1 ]  | Compression                | Mild                    |
| * Kidney          | Pelvis                      | Inflammation               | Chronic Active, Minimal |
|                   | Pelvis                      | Mineralization             | Minimal                 |
|                   |                             | Nephropathy                | Minimal                 |
| * Liver           |                             | Basophilic Focus           | Multiple                |
|                   | Bile Duct                   | Hyperplasia                | Mild                    |
|                   | Hepatocyte                  | Hypertrophy                | Moderate                |
| * Mammary Gland   | Duct                        | Dilatation                 | Minimal                 |
|                   | [ Dilatation TGLs = 2-8-1 ] |                            |                         |
| * Pituitary Gland | Pars Distalis               | Adenoma                    |                         |
|                   | [ Adenoma TGLs = 4-1 ]      |                            |                         |
| * Spleen          |                             | Pigmentation               | Minimal                 |
| * Thyroid Gland   | C Cell                      | Hyperplasia                | Mild                    |
| * Uterus          |                             | Adenomyosis                | Minimal                 |
|                   | Endometrium                 | Hyperplasia                | Cystic, Mild            |
| Vagina            |                             | Granular Cell Tumor Benign |                         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 301

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105301

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Granular Cell Tumor Benign TGLs = 5-22 ]

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 302

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105302

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Clitoral Gland	Duct	Cyst	Moderate
[ Cyst TGLs = 2-8 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
[ Cyst TGLs = 1-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
[ Hyperplasia TGLs = 6-23 ]			
* Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLs = 5-21 ]			
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Cyst	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 302

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105302

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Cyst TGLs = 3-22 ]

---



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 303

TRT#: 4

SEX: Female

DAY ON TEST: 525

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105303

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Epithelium

Hyperplasia

Mild

Inflammation

Acute, Mild

[ Hyperkeratosis TGLs = 6-4-1 ]

[ Hyperplasia TGLs = 6-4-1 ]

[ Inflammation TGLs = 6-4-1 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 304

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105304

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Parathyroid Gland
* Skin	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
* Brain		Compression	Mild
	[ Compression TGLs = 5-1 ]		
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Marked
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Mild
	[ Basophilic Focus TGLs = 2-23 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 7-24, 8-25 ]		
* Mammary Gland	Duct	Dilatation	Mild
		Fibroadenoma	Multiple
		Hyperplasia	Mild
	[ Fibroadenoma TGLs = 1-21, 3-22 ]		
	[ Hyperplasia TGLs = 4-8-1 ]		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	

Note: multiple adenomas, one large one and two smaller ones, one of the smaller ones contained vacuolated cells

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 304

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105304

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 6-1 ]

* Salivary Glands	Duct	Degeneration	Hyaline, Minimal
	Duct, Parotid GI	Inflammation	Acute, Minimal
	Parotid GI	Inflammation	Minimal
	Parotid GI	Vacuolization Cytoplasmic	Minimal
	Note: hyaline droplet degeneration in ducts		
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Mild
		Inflammation	Acute, Minimal
		Ulcer	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Minimal



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 305

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105305

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Mild
Note: microvesicular vacuolization			
* Mammary Gland	Duct	Dilatation	Minimal
* Nose			
Note: neutrophilic infiltrate adjacent to tooth			
* Ovary		Hyperplasia	Tubulostromal, Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Adenocarcinoma	
		Hyperplasia	Cystic, Moderate

[ Adenocarcinoma TGLs = 1-21 ]

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 306

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105306

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Mild
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
	Hepatocyte	Necrosis	Minimal
Note: inflammation in focal areas of necrosis			
* Ovary	Follicle	Cyst	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 3-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild
* Uterus		Polyp Stromal	
	[ Polyp Stromal TGLs = 1-21 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 307

TRT#: 4

SEX: Female

DAY ON TEST: 651

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Pancreas                  | * Parathyroid Gland      |
| * Skin                     | * Stomach, Glandular      | * Trachea                   | * Urinary Bladder        |
| * Uterus                   |                           |                             |                          |

MISSING

Vagina

OBSERVATIONS

- |                                                                              |               |                             |          |
|------------------------------------------------------------------------------|---------------|-----------------------------|----------|
| * Adrenal Cortex                                                             |               | Angiectasis                 | Mild     |
| * Brain                                                                      |               | Compression                 | Moderate |
| [ Compression TGLs = 2-1 ]                                                   |               |                             |          |
| * Clitoral Gland                                                             | Duct          | Cyst                        | Mild     |
| * Kidney                                                                     | Pelvis        | Mineralization              | Minimal  |
| * Liver                                                                      |               | Fatty Change                | Marked   |
|                                                                              | Hepatocyte    | Hypertrophy                 | Mild     |
| Note: difficult to evaluate hypertrophy because of cytoplasmic vacuolization |               |                             |          |
| Lymph Node                                                                   | Popliteal     | Pigmentation                | Mild     |
| [ Pigmentation TGLs = 4-21 ]                                                 |               |                             |          |
| * Mammary Gland                                                              |               | Hyperplasia                 | Moderate |
| [ Hyperplasia TGLs = 1-8-1 ]                                                 |               |                             |          |
| * Nose                                                                       |               |                             |          |
| Note: plasmacytic inflammation in region of tooth                            |               |                             |          |
| * Ovary                                                                      |               | Granulosa Cell Tumor Benign |          |
| * Pituitary Gland                                                            | Pars Distalis | Adenoma                     |          |
| [ Adenoma TGLs = 3-1 ]                                                       |               |                             |          |
| * Salivary Glands                                                            | Parotid GI    | Vacuolization Cytoplasmic   | Mild     |
| * Spleen                                                                     |               | Pigmentation                | Mild     |
| * Stomach, Forestomach                                                       |               | Edema                       | Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 307

TRT#: 4

SEX: Female

DAY ON TEST: 651

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105307

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Epithelium	Hyperkeratosis	Mild
		Hyperplasia	Moderate
		Inflammation	Chronic Active, Moderate
		Ulcer	Moderate
* Thymus		Lymphoma Malignant	
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 308

TRT#: 4

SEX: Female

DAY ON TEST: 658

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105308

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Skin	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 6-1 ]		
* Kidney	Transit Epithe	Hyperplasia	Mild
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Moderate
		Pigmentation	Minimal
	[ Eosinophilic Focus TGLs = 1-21 ]		
	[ Fatty Change TGLs = 2-6 ]		
	[ Pigmentation TGLs = 1-21 ]		
* Mammary Gland		Carcinoma	
		Hyperplasia	Mild
	[ Carcinoma TGLs = 4-8-1 ]		
	[ Hyperplasia TGLs = 4-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 308

TRT#: 4

SEX: Female

DAY ON TEST: 658

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105308

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Adenoma TGLs = 7-1 ]

* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
	Sublingual GI	Vacuolization Cytoplasmic	Minimal
Note: hyaline droplets in parotid salivary gland ducts			
* Spleen	Lymph Follicle	Atrophy	Minimal
		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Mild
		Inflammation	Acute, Minimal
		Ulcer	Mild
Note: inflammation and ulceration also on slide 4-1			
* Stomach, Glandular		Inflammation	Acute, Minimal
		Ulcer	Mild
* Thymus		Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 309

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105309

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis Hyperplasia Hypertrophy	Mild Focal, Minimal Focal, Minimal
			Note: large nuclei within hypertrophic focus in zona fasciculata
* Islets, Pancreatic		Adenoma	
* Kidney	Pelvis	Mineralization Basophilic Focus	Minimal Multiple
* Liver	Hepatocyte	Hypertrophy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation Hyperplasia Hyperplasia	Mild Minimal Tubulostromal, Moderate
* Ovary		Adenoma	
* Pituitary Gland	Pars Distalis		
	[ Adenoma TGLs = 1-1, 2-1 ]		
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 310

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105310

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Salivary Glands         |
| * Skin                      | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                        |                                              |                                  |          |
|------------------------|----------------------------------------------|----------------------------------|----------|
| * Adrenal Cortex       |                                              | Angiectasis                      | Mild     |
| * Kidney               | Pelvis                                       | Mineralization                   | Minimal  |
| * Liver                | Bile Duct                                    | Hyperplasia                      | Minimal  |
|                        | Hepatocyte                                   | Hypertrophy                      | Mild     |
|                        |                                              | Lymphoma Malignant               |          |
|                        | [ Lymphoma Malignant TGLs = 5,6,7-24+25+26 ] |                                  |          |
| * Mammary Gland        | Duct                                         | Dilatation                       | Mild     |
|                        |                                              | Fibroadenoma                     | Multiple |
|                        |                                              | Hyperplasia                      | Minimal  |
|                        | [ Dilatation TGLs = 3-8-1 ]                  |                                  |          |
|                        | [ Fibroadenoma TGLs = 1-21, 2-22 ]           |                                  |          |
|                        | [ Hyperplasia TGLs = 3-8-1 ]                 |                                  |          |
| * Pituitary Gland      | Pars Distalis                                | Adenoma                          |          |
| * Spleen               |                                              | Hematopoietic Cell Proliferation | Minimal  |
|                        |                                              | Hemorrhage                       | Mild     |
|                        | [ Hemorrhage TGLs = 4-23 ]                   |                                  |          |
| * Stomach, Forestomach |                                              | Mineralization                   | Minimal  |
| * Stomach, Glandular   |                                              | Mineralization                   | Minimal  |
| * Thyroid Gland        | C Cell                                       | Hyperplasia                      | Minimal  |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 311

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105311

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Mild
* Lymph Node, Mesenteric		Hemorrhage	Minimal
[ Hemorrhage TGLs = 1-5 ]			
* Ovary		Atrophy	Moderate
		Granulosa Cell Tumor Benign	
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus		Polyp Stromal	

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 312

TRT#: 4

SEX: Female

DAY ON TEST: 585

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105312

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Minimal
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 2-21+21.1 ]		
* Ovary		Cyst	Moderate
	[ Cyst TGLs = 4-7 ]		
* Pituitary Gland	Pars Intermed	Hypertrophy	Mild
* Skin		Schwannoma Malignant	
	Note: mass consists of a dense population of spindle-shaped cells within a collagenous stroma arranged in interlacing bundles, palisading of cells was present		
	Note: Antoni A and B patterns present in neoplasm, a few mammary acini noted within mass		
	[ Schwannoma Malignant TGLs = 2-21, 2-21-1 ]		
* Thyroid Gland	Follicle	Hypertrophy	Minimal
* Uterus		Polyp Stromal	
	[ Polyp Stromal TGLs = 5-22 ]		

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 313

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105313

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

**MISSING**

Vagina

**OBSERVATIONS**

- |                                                                                        |                                    |                                  |                     |
|----------------------------------------------------------------------------------------|------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                       |                                    | Angiectasis                      | Mild                |
| * Kidney                                                                               | Pelvis                             | Mineralization                   | Mild                |
| Note: mineralization positive for calcium with von Kossa stain                         |                                    |                                  |                     |
| * Liver                                                                                |                                    | Basophilic Focus                 | Multiple            |
|                                                                                        |                                    | Clear Cell Focus                 | Multiple            |
|                                                                                        |                                    | Fatty Change                     | Minimal             |
|                                                                                        | Hepatocyte                         | Hypertrophy                      | Mild                |
|                                                                                        | [ Clear Cell Focus TGLs = 4-6 ]    |                                  |                     |
| * Lung                                                                                 |                                    | Infiltration Cellular            | Histiocyte, Minimal |
| * Mammary Gland                                                                        |                                    | Fibroadenoma                     | Multiple            |
|                                                                                        |                                    | Hyperplasia                      | Minimal             |
|                                                                                        | [ Fibroadenoma TGLs = 1-21, 2-22 ] |                                  |                     |
|                                                                                        | [ Hyperplasia TGLs = 3-8-1 ]       |                                  |                     |
| * Pituitary Gland                                                                      | Pars Distalis                      | Hyperplasia                      | Focal, Minimal      |
| * Spleen                                                                               |                                    | Hematopoietic Cell Proliferation | Mild                |
| * Stomach, Glandular                                                                   |                                    | Mineralization                   | Mild                |
| Note: mineralization (artery and muscularis) positive for calcium with von Kossa stain |                                    |                                  |                     |
| * Thyroid Gland                                                                        | C Cell                             | Hyperplasia                      | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 314

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105314

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
* Mammary Gland	Duct	Dilatation	Minimal
[ Dilatation TGLs = 1-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-21 ]			
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 315

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105315

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

\* Parathyroid Gland                      Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Minimal
* Clitoral Gland	Duct	Cyst	Moderate
[ Cyst    TGLs = 1-8 ]			
* Kidney		Cyst	
[ Cyst    TGLs = 3-5 ]			
* Liver		Basophilic Focus	Multiple
		Hepatodiaphragmatic Nodule	
	Hepatocyte	Hypertrophy	Mild
[ Hepatodiaphragmatic Nodule	TGLs = 4-22 ]		
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma    TGLs = 2-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 316

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105316

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
[ Clear Cell Focus TGLs = 4-21 ]			
* Ovary		Atrophy	Moderate
		Hyperplasia	Tubulostromal, Moderate
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
Note: mineralization of blood vessels, parietal cells and glandular epithelium			
* Thymus		Hemorrhage	Moderate
[ Hemorrhage TGLs = 2-3 ]			
* Thyroid Gland	C Cell	Adenoma	Multiple
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 317

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105317

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mesenteric    |
| * Nose                   | * Pancreas                 | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Thymus                  | * Trachea                   |
| * Urinary Bladder        | * Uterus                   |                           |                             |

MISSING

Vagina

OBSERVATIONS

- |                          |                                             |                       |                     |
|--------------------------|---------------------------------------------|-----------------------|---------------------|
| * Adrenal Cortex         |                                             | Hyperplasia           | Focal, Minimal      |
| * Heart                  |                                             | Cardiomyopathy        | Minimal             |
| * Kidney                 |                                             | Hydronephrosis        | Mild                |
|                          | [ Hydronephrosis TGLs = 3-5 ]               |                       |                     |
| * Liver                  |                                             | Basophilic Focus      | Multiple            |
|                          |                                             | Clear Cell Focus      | Multiple            |
|                          | Bile Duct                                   | Hyperplasia           | Minimal             |
|                          | Oval Cell                                   | Hyperplasia           | Minimal             |
|                          | Hepatocyte                                  | Hypertrophy           | Mild                |
| * Lung                   |                                             | Infiltration Cellular | Histiocyte, Minimal |
|                          | [ Infiltration Cellular TGLs = 5-22, 6-23 ] |                       |                     |
| * Lymph Node, Mandibular |                                             | Ectasia               | Mild                |
| * Mammary Gland          | Duct                                        | Dilatation            | Moderate            |
|                          | [ Dilatation TGLs = 1-8-1 ]                 |                       |                     |
| Mesentery                | Fat                                         | Necrosis              | Mild                |
|                          | [ Necrosis TGLs = 2-21 ]                    |                       |                     |
| * Ovary                  |                                             | Cystadenoma           |                     |
| * Pituitary Gland        | Pars Distalis                               | Adenoma               |                     |
|                          | [ Adenoma TGLs = 4-1 ]                      |                       |                     |
| * Spleen                 |                                             | Pigmentation          | Minimal             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 317

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105317

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 318

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105318

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Parathyroid Gland                      Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Kidney	Transit Epithe	Hyperplasia	Mild
	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular    TGLs = 3-22 ]		
* Mammary Gland		Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis    TGLs = 1-21 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thymus		Hemorrhage	Minimal
	[ Hemorrhage    TGLs = 2-3 ]		
* Thyroid Gland	Follicular Cel	Hyperplasia	Minimal
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 319

TRT#: 4

SEX: Female

DAY ON TEST: 358

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105319

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Brain		Compression	Minimal
	[ Compression TGLs = 4-1 ]		
* Liver	Hepatocyte	Basophilic Focus Hypertrophy Pigmentation	Minimal Moderate
	Note: brown granular to globular pigment in Kupffer cells and hepatocytes - pigment positive for iron with Prussian blue stain		
* Mammary Gland	Duct	Dilatation Hyperplasia	Minimal Minimal
* Pancreas		Atrophy Inflammation	Minimal Granulomatous, Chronic, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-21 ]		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell Follicle	Hyperplasia Hypertrophy	Mild Minimal
* Trachea		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 320

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105320

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-2, 3-21, 4-22 ]		
* Mammary Gland	Duct	Dilatation	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	Note: mass consisting of sheets of a uniform population of round cells with indistinct cytoplasmic borders and round nuclei which compresses adjacent parenchyma,		
	Note: dilated blood vessels in neoplasm, neoplasm appears to be within pars intermedia, but cells resemble pars distalis		
	[ Adenoma TGLs = 2-23 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 321

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105321

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Minimal
* Intestine Small, Jejunum		Leiomyoma	
[ Leiomyoma TGLs = 4-23 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 5-2, 6-2, 6-25 ]			
* Mammary Gland	Duct	Dilatation	Mild
		Fibroadenoma	
[ Dilatation TGLs = 3-8-1 ]			
[ Fibroadenoma TGLs = 1-21 ]			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 2-22 ]			
* Ovary		Granulosa Cell Tumor Benign	
Note: focal area with sheets of cells sometimes arranged in tubules, cells have round to ovoid nuclei with stippled chromatin and indistinct cytoplasmic borders			
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 321

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105321

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Pigmentation

Minimal

Hyperplasia

Minimal

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Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 322

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105322

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Bone Marrow               | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Nose                    | * Ovary                     | * Pancreas               |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Thymus                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

- |                     |        |
|---------------------|--------|
| * Parathyroid Gland | Vagina |
|---------------------|--------|

OBSERVATIONS

- |                      |                                        |                                  |          |
|----------------------|----------------------------------------|----------------------------------|----------|
| * Adrenal Cortex     |                                        | Angiectasis                      | Minimal  |
| * Brain              |                                        | Compression                      | Moderate |
|                      | [ Compression TGLs = 2-1 ]             |                                  |          |
| * Clitoral Gland     | Duct                                   | Cyst                             | Mild     |
| * Kidney             | Transit Epithe                         | Hyperplasia                      | Minimal  |
|                      | Pelvis                                 | Mineralization                   | Mild     |
| * Liver              |                                        | Basophilic Focus                 | Multiple |
|                      |                                        | Eosinophilic Focus               |          |
|                      | Hepatocyte                             | Hepatocellular Adenoma           |          |
|                      | [ Hepatocellular Adenoma TGLs = 4-21 ] | Hypertrophy                      | Mild     |
| * Mammary Gland      | Duct                                   | Dilatation                       | Mild     |
|                      |                                        | Hyperplasia                      | Mild     |
|                      | [ Hyperplasia TGLs = 1-8-1 ]           |                                  |          |
| * Pituitary Gland    | Pars Distalis                          | Adenoma                          |          |
|                      | [ Adenoma TGLs = 3-1 ]                 |                                  |          |
| * Spleen             |                                        | Hematopoietic Cell Proliferation | Minimal  |
|                      |                                        | Pigmentation                     | Minimal  |
| * Stomach, Glandular |                                        | Mineralization                   | Minimal  |
| * Thyroid Gland      | C Cell                                 | Adenoma                          |          |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 322

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105322

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

C Cell  
Endometrium

Hyperplasia  
Hyperplasia

Mild  
Cystic, Mild

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 323

TRT#: 4

SEX: Female

DAY ON TEST: 662

DOSE: 3 MG/KG

DISP: Dosing Accident

HISTO: 110520105323

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Esophagus
* Harderian Gland	* Kidney	* Lung	* Lymph Node, Mandibular
* Nose	* Parathyroid Gland	* Pituitary Gland	* Skin
* Trachea			

MISSING

* Clitoral Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Urinary Bladder
* Uterus	Vagina		

AUTO PRECLUDES DIAG.

* Adrenal Cortex	* Eye	* Intestine Large, Rectum	* Thyroid Gland
------------------	-------	---------------------------	-----------------

OBSERVATIONS

* Bone Marrow	Myeloid Cell	Hyperplasia	Moderate
* Heart	Epicardium	Inflammation	Chronic, Mild
Note: granulomatous to pyogranulomatous inflammation and fibrosis (collagen) in mediastinal tissue			
* Kidney			
Note: left kidney missing			
Lymph Node	Mediastinal	Inflammation	Granulomatous, Chronic Active, Moderate
Note: multinucleate giant cells, macrophages, neutrophils and foreign material (plant), also collagen bundles in lymph node			
[ Inflammation TGLs = 1-3 ]			
Mesentery		Inflammation	Granulomatous, Chronic Active, Marked
Note: Numerous epithelioid macrophages, plasma cells and mineralization within fibrous connective tissue capsule. Neutrophils adjacent to capsule (abscess)			
Note: Tissue corresponds to an abscess in the thorax (mediastinum). Mediastinum was not an option			
Note: mesentery missing			
[ Inflammation TGLs = 2-21 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Skin			
Note: basophilic round, yeast-like bodies at base of section of skin			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 323

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 662

**DOSE:** 3 MG/KG

**DISP:** Dosing Accident

**HISTO:** 110520105323

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 324

TRT#: 4

SEX: Female

DAY ON TEST: 694

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105324

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Necrosis	Marked
		Vacuolization Cytoplasmic	Minimal
		Note: coagulative necrosis of zona glomerulosa, fasciculata and reticularis, inflammation is not present	
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Mild
		Pigmentation	Minimal
		Note: the brown pigment in the cytoplasm of the cortical tubular epithelium was positive for the iron stain (Prussian blue) and the pigment was negative for bile	
* Liver		Basophilic Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
* Mammary Gland		Hyperplasia	Minimal
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Moderate
* Spleen		Hematopoietic Cell Proliferation	Marked
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal
		Ulcer	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 324

TRT#: 4

SEX: Female

DAY ON TEST: 694

DOSE: 3 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105324

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hyperkeratosis TGLs = 4-4-1 ]

[ Hyperplasia TGLs = 4-4-1 ]

[ Inflammation TGLs = 4-4-1 ]

[ Ulcer TGLs = 4-4-1 ]

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

Tissue NOS

Inflammation

Suppurative, Chronic Active, Marked

Note: transmural pyogranulomatous uterine inflammation with intralesional bacteria, chronic inflammation in mesentery between uterus and small intestine

Note: Utilizing a gram stain, majority of bacteria were gram negative, a few gram positive bacteria

[ Inflammation TGLs = 2-22 ]

\* Uterus

Inflammation

Chronic Active, Marked

Note: fibrosis in wall extending from endometrium to serosa

Note: numerous neutrophils and foamy macrophages (pyogranulomatous) within the uterine wall, degenerate and necrotic neutrophils in lumen, transmural inflammation

[ Inflammation TGLs = 1-21, 1-21-1 ]

PRIMARY CAUSE OF DEATH

- Uterus Inflammation

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 325

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105325

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Pituitary Gland                      Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
	Hepatocyte	Hypertrophy	Mild
[ Hypertrophy    TGLs = 1-6 ]			
* Lymph Node, Mesenteric		Hemorrhage	Mild
[ Hemorrhage    TGLs = 2-5 ]			
* Ovary		Cyst	Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 326

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105326

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Mild
	[ Infiltration Cellular TGLs = 3-2 ]		
* Mammary Gland	Duct	Dilatation	Mild
		Fibroadenoma	
		Hyperplasia	Minimal
	[ Dilatation TGLs = 2-8-1 ]		
	[ Fibroadenoma TGLs = 1-21 ]		
	[ Hyperplasia TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Adenoma TGLs = 4-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 326

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105326

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Pigmentation

Minimal

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 327

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105327

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
Note: clear cell foci on slides 6 and 24			
	[ Clear Cell Focus	TGLs = 5-24 ]	
	[ Eosinophilic Focus	TGLs = 5-24 ]	
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular	TGLs = 2-21, 3-22 ]	
* Mammary Gland		Hyperplasia	Minimal
* Ovary		Hyperplasia	Tubulostromal, Moderate
* Parathyroid Gland		Adenoma	
* Pituitary Gland	Pars Intermed	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 327

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105327

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

Follicular Cel  
C Cell

Adenoma  
Hyperplasia

Mild

---



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 328

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 3 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105328

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney		Nephropathy	Minimal
* Liver	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Minimal
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 2-22 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Hyperplasia	Atypical, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 329

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105329

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Accessory Adrenal Cortical Nodule	Multifocal, Mild
		Angiectasis	Moderate
* Clitoral Gland	Duct	Cyst	Multiple, Moderate
[ Cyst TGLs = 2-22, 3-22 ]			
* Intestine Large, Rectum		Degeneration	Fatty, Focal, Mild
Note: clear vacuoles, compatible with fat vacuoles, within the mucosa			
* Kidney	Transit Epithe	Hyperplasia	Minimal
	Pelvis	Mineralization	Mild
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hepatodiaphragmatic Nodule	
		Hypertrophy	Mild
Note: slide 23 has a linear area of congestion, but it doesnt appear to correspond to a pale focus			
[ Hepatodiaphragmatic Nodule TGLs = 4-6 ]			
* Mammary Gland		Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Uterus		Leiomyoma	
[ Leiomyoma TGLs = 1-21 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 330

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Mild
	[ Hepatodiaphragmatic Nodule TGLs = 6-23 ]		
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 4-8-1 ]		
* Ovary		Atrophy	Moderate
	Follicle	Cyst	Multiple, Mild
		Cyst	Mild
		Luteoma	

Note: encapsulated mass consisting of plump round to polygonal cells with relatively discrete cytoplasmic borders, round nuclei and mild cytoplasmic vacuolization

Note: bursal cyst

[ Cyst TGLs = 3-7 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 330

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 3 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105330

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Spleen		Hematopoietic Cell Proliferation	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Marked
[ Hyperplasia	TGLs = 1-21, 2-7 ]		

---

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 331

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105331

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node			
Note: pancreatic lymph node has hemosiderin pigmentation - TGL 2			
* Lymph Node, Mesenteric		Ectasia	Mild
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 1-21 ]		
* Ovary		Cystadenoma	
* Spleen		Pigmentation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 332

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105332

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Nose	* Pancreas	* Parathyroid Gland	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Marked
* Eye			
Note: optic nerve not present			
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Hemorrhage	Moderate
	[ Hemorrhage TGLs = 2-5 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 3-8-1 ]		
* Nose			
Note: acute inflammation adjacent to tooth			
* Ovary		Cyst	Marked
Note: bursal cyst			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 332

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105332

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Cyst TGLs = 1-7 ]

* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Nervosa	Cyst	Multiple, Mild
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 333

TRT#: 6

SEX: Female

DAY ON TEST: 508

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105333

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Brain                     | * Clitoral Gland         |
| * Esophagus                | * Eye                     | * Harderian Gland           | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Pituitary Gland        |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           |                          |

**OBSERVATIONS**

- |                                                                                                                                                                       |                                                              |                                  |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                      |                                                              | Angiectasis                      | Minimal             |
| * Bone Marrow                                                                                                                                                         | Myeloid Cell                                                 | Hyperplasia                      | Mild                |
| * Eye                                                                                                                                                                 |                                                              |                                  |                     |
| Note: optic nerve missing                                                                                                                                             |                                                              |                                  |                     |
| * Heart                                                                                                                                                               |                                                              | Cardiomyopathy                   | Minimal             |
| * Liver                                                                                                                                                               | Bile Duct                                                    | Cyst                             | Minimal             |
|                                                                                                                                                                       | Hepatocyte                                                   | Hypertrophy                      | Mild                |
| * Spleen                                                                                                                                                              |                                                              | Hematopoietic Cell Proliferation | Moderate            |
|                                                                                                                                                                       | [ Hematopoietic Cell Proliferation TGLs = 1-6 ]              |                                  |                     |
| * Thyroid Gland                                                                                                                                                       | C Cell                                                       | Hyperplasia                      | Minimal             |
| * Uterus                                                                                                                                                              |                                                              | Decidual Reaction                | Mild                |
|                                                                                                                                                                       |                                                              | Schwannoma Malignant             |                     |
| Note: interlacing bundles of spindle-shaped cells with large, ovoid vesicular nuclei, extensive foci of necrosis, ulcerated and inflamed mass, decidual cells present |                                                              |                                  |                     |
|                                                                                                                                                                       | [ Schwannoma Malignant TGLs = 2-22, 2-22-1, 2-22-2, 2-22-3 ] |                                  |                     |
| Vagina                                                                                                                                                                |                                                              | Schwannoma Malignant             | Metastatic (Uterus) |
|                                                                                                                                                                       | [ Schwannoma Malignant TGLs = 3-21 ]                         |                                  |                     |

PRIMARY CAUSE OF DEATH - Uterus Schwannoma Malignant

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 334

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105334

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Mammary Gland	* Nose
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Adenocarcinoma	Metastatic (Uterus)
		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Moderate
	Hepatocyte	Mitosis	Mild
* Lung		Adenocarcinoma	Metastatic (Uterus)
* Lymph Node, Mesenteric		Ectasia	Minimal
Mesentery		Adenocarcinoma	Metastatic (Uterus)
	[ Adenocarcinoma TGLs = 5--24 ]		
* Pancreas		Adenocarcinoma	Metastatic (Uterus)
		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Adenoma TGLs = 6-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
* Stomach, Glandular		Mineralization	Minimal
	Note: uterine carcinoma in attached mesentery		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild
Tissue NOS		Adenocarcinoma	Metastatic (Uterus)

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 334

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105334

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: mass attached to pancreas, mesentery , liver and diaphragm

[ Adenocarcinoma TGLs = 3,4-22+23 ]

\* Uterus

Adenocarcinoma

[ Adenocarcinoma TGLs = 1-21 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 335

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105335

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Mild
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Multiple, Minimal
		Fatty Change	Minimal
		Fibrosis	Minimal
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
Note: microvesicular vacuolization			
Note: fibrous adhesion between lobes			
Note: angiectasis present within the hepatocellular adenoma			
[ Fatty Change TGLs = 6-23 ]			
[ Fibrosis TGLs = 5-23 ]			
[ Hepatocellular Adenoma TGLs = 4-22 ]			
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Minimal
[ Pigmentation TGLs = 7-3 ]			
* Lymph Node, Mandibular		Ectasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 335

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105335

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Mammary Gland	Duct	Cyst Fibroadenoma	Minimal
[ Cyst TGLs = 3-21 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	Multiple
[ Polyp Stromal TGLs = 2-7, 1-24 ]			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 336

TRT#: 6

SEX: Female

DAY ON TEST: 553

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105336

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex	Angiectasis	Minimal
* Brain	Compression	Moderate
	Glioma Malignant	

Note: neoplastic cells had moderate amounts of eosinophilic cytoplasm and round nuclei, 0-1 mitoses per 400x field, small areas of necrosis within neoplasm

Note: poorly demarcated mass in neuropil of cerebrum consisting of highly cellular, slightly mixed population of cells ( round , polygonal and spindle-shaped cells)

Note: some cells have a gemistocytic appearance

[ Compression TGLs = 1-1 ]

* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Marked
* Mammary Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 2-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
	Parotid GI	Vacuolization Cytoplasmic	Minimal
* Skin		Inflammation	Acute, Minimal
		Ulcer	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 336

TRT#: 6

SEX: Female

DAY ON TEST: 553

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105336

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Inflammation TGLs = 4-21 ]

[ Ulcer TGLs = 4-21 ]

\* Spleen

\* Stomach, Forestomach

Epithelium

Pigmentation

Edema

Hyperkeratosis

Hyperplasia

Inflammation

Ulcer

Mild

Mild

Mild

Mild

Acute, Moderate

Mild

Note: similar but milder lesion also on slide 4-1

[ Edema TGLs = 5-22 ]

[ Hyperkeratosis TGLs = 5-22 ]

[ Hyperplasia TGLs = 5-22 ]

[ Inflammation TGLs = 5-22 ]

[ Ulcer TGLs = 5-22 ]

\* Thymus

\* Thyroid Gland

C Cell

Atrophy

Hyperplasia

Mild

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 337

TRT#: 6

SEX: Female

DAY ON TEST: 656

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105337

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Ovary                    | * Pancreas                |
| * Parathyroid Gland         | * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Trachea                   | * Urinary Bladder        | * Uterus                   |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                                                                                |                  |                           |                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|-----------------|
| * Adrenal Cortex                                                                                                                                               |                  | Angiectasis               | Minimal         |
| * Liver                                                                                                                                                        |                  | Fatty Change              | Minimal         |
|                                                                                                                                                                |                  | Hepatocellular Adenoma    |                 |
|                                                                                                                                                                | Bile Duct        | Hyperplasia               | Minimal         |
|                                                                                                                                                                | Hepatocyte       | Hypertrophy               | Moderate        |
|                                                                                                                                                                |                  | Pigmentation              | Minimal         |
| Note: hemosiderin-laden Kupffer cells in sinusoids of caudate lobe - TGL 2                                                                                     |                  |                           |                 |
| Note: severe angiectasis within the slightly basophilic hepatocellular adenoma (possibly corresponds to a focus since minimal compression is present)          |                  |                           |                 |
| [ Hepatocellular Adenoma TGLs = 5-22 ]                                                                                                                         |                  |                           |                 |
| * Lung                                                                                                                                                         | Alveolar Epith   | Hyperplasia               | Minimal         |
| * Lymph Node, Mesenteric                                                                                                                                       |                  | Hemorrhage                | Mild            |
| * Mammary Gland                                                                                                                                                |                  | Hyperplasia               | Minimal         |
| [ Hyperplasia TGLs = 1-8-1 ]                                                                                                                                   |                  |                           |                 |
| * Nose                                                                                                                                                         |                  | Inflammation              | Acute, Moderate |
| Oral Mucosa                                                                                                                                                    |                  | Squamous Cell Carcinoma   |                 |
| Note: invasive neoplasm extending from oral cavity through the nasal bones into the nasal sinuses, neoplasm consists of sheets of pleomorphic epithelial cells |                  |                           |                 |
| [ Squamous Cell Carcinoma TGLs = 3-9-1 ]                                                                                                                       |                  |                           |                 |
| * Pituitary Gland                                                                                                                                              | Pars Distalis    | Adenoma                   |                 |
| * Salivary Glands                                                                                                                                              | Duct, Parotid GI | Inflammation              | Acute, Marked   |
|                                                                                                                                                                | Parotid GI       | Vacuolization Cytoplasmic | Minimal         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 337

TRT#: 6

SEX: Female

DAY ON TEST: 656

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105337

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Pigmentation

Mild

\* Thymus

Atrophy

Moderate

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

- Oral Mucosa Squamous Cell Carcinoma

---



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 338

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105338

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
Peripheral Nerve	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Parathyroid Gland                      Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
		Hyperplasia	Nodular, Moderate
	Hepatocyte	Hypertrophy	Moderate
Note: adenoma on slide 6 and slide 27			
Note: slide 22 has eosinophilic foci			
[ Hyperplasia    TGLs = 11-27 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
Note: cholesterol clefts and multinucleate giant cells in some foci of histiocyte infiltration cellular			
[ Infiltration Cellular    TGLs = 8-23, 9-24, 10-25 ]			
* Mammary Gland	Duct	Dilatation	Minimal
		Fibroadenoma	
[ Dilatation    TGLs = 3-8-1 ]			
[ Fibroadenoma    TGLs = 1-21 ]			
* Ovary		Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 338

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105338

ORGAN AND ACCOUNTABLE SITE STATUS

Note: bursal cyst

[ Cyst TGLs = 6-7 ]

\* Pituitary Gland

Pars Distalis

Cyst

Multiple

Pars Distalis

Hyperplasia

Focal, Minimal

[ Hyperplasia TGLs = 5-26 ]

\* Thymus

Hemorrhage

Mild

[ Hemorrhage TGLs = 4-3 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Tissue NOS

Fibrosis

Minimal

Note: adhesion between diaphragm and liver

[ Fibrosis TGLs = 2-22 ]

\* Uterus

Note: TGL 7 = No correlating lesion per NTP Path.

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 339

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105339

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Brain                   | * Clitoral Gland            |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Trachea                  | * Urinary Bladder         | * Uterus                    |

**MISSING**

Vagina

**OBSERVATIONS**

- |                                                                       |              |                                  |                  |
|-----------------------------------------------------------------------|--------------|----------------------------------|------------------|
| * Adrenal Cortex                                                      |              | Angiectasis                      | Mild             |
|                                                                       |              | Hematopoietic Cell Proliferation | Minimal          |
|                                                                       |              | Hyperplasia                      | Focal, Minimal   |
|                                                                       |              | Vacuolization Cytoplasmic        | Minimal          |
| Note: chronic inflamamtion with fibrosis adjacent to adrenal          |              |                                  |                  |
| * Bone Marrow                                                         | Myeloid Cell | Hyperplasia                      | Mild             |
| * Int Lg Cecum                                                        |              |                                  |                  |
| Note: chronic inflammation with fibosis in mesentery                  |              |                                  |                  |
| * Int Lg Colon                                                        |              |                                  |                  |
| Note: chronic inflammation with fibrosis in mesentery                 |              |                                  |                  |
| * Int Sm Ileum                                                        |              |                                  |                  |
| Note: chronic inflammation with fibrosis in mesentery                 |              |                                  |                  |
| * Int Sm Jejunum                                                      |              |                                  |                  |
| Note: chronic inflammation with fibrosis in mesentery                 |              |                                  |                  |
| * Kidney                                                              |              | Inflammation                     | Chronic, Minimal |
| * Liver                                                               |              | Basophilic Focus                 |                  |
|                                                                       | Hepatocyte   | Degeneration                     | Marked           |
|                                                                       |              | Eosinophilic Focus               | Multiple         |
|                                                                       | Hepatocyte   | Hypertrophy                      | Moderate         |
| Note: indiscrete clear spaces in the cytoplasm of swollen hepatocytes |              |                                  |                  |
| [ Degeneration TGLs = 7-6 ]                                           |              |                                  |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 339

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105339

ORGAN AND ACCOUNTABLE SITE STATUS

<p>[ Hypertrophy TGLs = 7-6 ]</p> <p>* Lung</p> <p>[ Infiltration Cellular TGLs = 8-2 ]</p> <p>* Lym Node Mesen</p> <p>Note: chronic inflammation and fibrosis in attached mesentery</p> <p>Lymph Node</p> <p>[ Hyperplasia TGLs = 6-24 ]</p> <p>* Mammary Gland</p> <p>Mesentery</p> <p>Note: mass consists of spindle-shaped cells with ovoid nuclei and indistinct cytoplasmic borders, large cystic spaces interspersed between the spindle-shaped cells</p> <p>Note: spindle-shaped cells loosely arranged in some areas and more compactly arranged in others, fibrinous exudate present on the surface of the mass</p> <p>Note: 1-3 mitoses per 400x field, frequent mitoses &gt;5 per 400x field in some areas</p> <p>[ Schwannoma Malignant TGLs = 3-21, 5-22 ]</p> <p>* Ovary</p> <p>Note: irregular interlacing bundles of spindle-shaped cells interspersed with scattered cystic spaces, mass same as mesenteric mass</p> <p>Note: multifocal to coalescing foci of necrosis consisting of eosinophilic cellular debris, karyorrhectic neutrophils and bacteria in neoplasm</p> <p>Note: chronic inflammation in periovarian tissue</p> <p>[ Cyst TGLs = 1-7 ]</p> <p>[ Schwannoma Malignant TGLs = 2-23 ]</p> <p>* Pancreas</p> <p>Note: chronic inflammation and fibrosis at periphery of pancreatic lobules</p> <p>* Pituitary Gland</p> <p>Note: focus of pale eosinophilic cells</p> <p>* Spleen</p> <p>* Stomach, Forestomach</p> <p>Note: chronic inflammation and fibrosis in mesentery attached to stomach</p>	<p>Mediastinal</p> <p>Mediastinal</p> <p>Duct</p>	<p>Infiltration Cellular</p> <p>Ectasia</p> <p>Hyperplasia</p> <p>Dilatation</p> <p>Fibrosis</p> <p>Hyperplasia</p> <p>Schwannoma Malignant</p> <p>Cyst</p> <p>Schwannoma Malignant</p> <p>Inflammation</p> <p>Hyperplasia</p> <p>Atrophy</p> <p>Hematopoietic Cell Proliferation</p> <p>Squamous Cell Papilloma</p>	<p>Histiocyte, Minimal</p> <p>Minimal</p> <p>Plasma Cell, Marked</p> <p>Mild</p> <p>Mild</p> <p>Minimal</p> <p>Minimal</p> <p>Metastatic (Mesentery)</p> <p>Chronic, Moderate</p> <p>Focal, Minimal</p> <p>Moderate</p> <p>Marked</p>
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 339

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105339

ORGAN AND ACCOUNTABLE SITE STATUS

[ Squamous Cell Papilloma TGLs = 9-4-1 ]

\* Stomach, Glandular

Mineralization

Minimal

Note: fibrosis and chronic inflammation in mesentery attached to stomach

\* Thymus

Atrophy

Marked

\* Thyroid Gland

Follicle

Cyst

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 340

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105340

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hyperplasia	Focal, Moderate
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
Note: eosinophilic foci on slide 6 and slide 28 [ Eosinophilic Focus TGLs = 10,10-28,11-28,27 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 6-22, 7-23 ]			
* Mammary Gland	Duct	Dilatation	Mild
[ Dilatation TGLs = 1-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
Note: 2 foci of the pituitary gland adenoma merging together or possibly two adenomas present, adenoma compresses adjacent parenchyma [ Adenoma TGLs = 5-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Adenoma	Multiple

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 340

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105340

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	[ Adenoma TGLs = 4-21 ]		
	[ Dilatation TGLs = 8,2-24+7 ]	Dilatation	Marked
	[ Polyp Stromal TGLs = 3-26, 9-25 ]	Polyp Stromal	

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 341

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105341

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Minimal
[ Hyperplasia TGLs = 2-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 3-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal
		Polyp Stromal	
[ Polyp Stromal TGLs = 1-21 ]			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 342

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105342

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Hepatocellular Adenoma	
		Hyperplasia	Nodular, Mild
	Hepatocyte	Hypertrophy	Marked
	[ Hepatocellular Adenoma TGLs = 2-6 ]		
	Mesentery	Necrosis	Minimal
	[ Necrosis TGLs = 1-21 ]		
* Pancreas		Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	Follicle	Cyst	
	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 343

TRT#: 6

SEX: Female

DAY ON TEST: 555

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105343

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Brain		Compression	Moderate
[ Compression TGLs = 1-1 ]			
* Harderian Gland			
Note: increased pigmentation			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Eosinophilic Focus	
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Moderate
Note: TGL 5 has raised surface, but liver parenchyma is similar to that present in the other sections of liver			
* Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 5-21 ]			
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland		Hyperplasia	Moderate
[ Hyperplasia TGLs = 4-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1 ]			
* Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 343

TRT#: 6

SEX: Female

DAY ON TEST: 555

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105343

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

\* Uterus

Myometrium

Degeneration

Mucoid, Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 344

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105344

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
	[ Angiectasis TGLs = 2-10 ]		
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Mild
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: circumscribed mass consists of cystic bile ducts lined by a uniform population of cuboidal epithelium with minimal fibrous connective tissue stroma		
	Note: multilocular biliary cyst		
	[ Clear Cell Focus TGLs = 4-6 ]		
	[ Cyst TGLs = 3-21 ]		
* Ovary		Atrophy	Mild
		Hyperplasia	Tubulostromal, Mild
* Stomach, Glandular		Necrosis	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 344

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105344

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: acute inflammation in small focus of necrosis in mucosa

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Minimal

\* Uterus

Polyp Stromal

[ Polyp Stromal TGLs = 1-22 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 345

TRT#: 6

SEX: Female

DAY ON TEST: 686

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105345

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Glandular
* Trachea			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Adenocarcinoma	Metastatic (Uterus)
		Angiectasis	Mild
		Hematopoietic Cell Proliferation	Minimal
		Leukemia Granulocytic	
		Vacuolization Cytoplasmic	Minimal
Note: small foci neoplastic leukocytes like those in the spleen present in the adrenal cortex, also foci of mature neutrophils and hematopoietic cell prolifation			
* Bone Marrow	Myeloid Cell	Hyperplasia	Moderate
		Leukemia Granulocytic	
* Kidney		Hydronephrosis	Marked
		Inflammation	Chronic Active, Mild
Note: atrophy of cortex and medulla, tubular ectasia, neutrophilic to mixed inflammatory infiltrates in cortex			
Note: pressure atrophy of the adrenal cortex due to hydronephrosis corresponds to TGL 3			
Note: chronic inflammation with mesothelial hypertrophy on the capsular surface of the kidney			
[ Hydronephrosis TGLs = 2-5, 3-5 ]			
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Hepatocellular Adenoma	Multiple
		Hepatocellular Carcinoma	
	Hepatocyte	Hypertrophy	Moderate
Note: eosinophilic foci on slides 6 and 22			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 345

TRT#: 6

SEX: Female

DAY ON TEST: 686

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105345

ORGAN AND ACCOUNTABLE SITE STATUS

[ Eosinophilic Focus TGLs = 8-6 ]

[ Hepatocellular Carcinoma TGLs = 7-22 ]

\* Lung Adenocarcinoma Metastatic (Uterus)

Note: neoplastic embolus in a blood vessel, may be a metastatic pancreatic carcinoma

[ Adenocarcinoma TGLs = 13,14,16,17-2+24+25 ]

Lymph Node Mediastinal Adenocarcinoma Metastatic (Uterus)

Note: TGL12 tissue probably corresponds to the mediastinum rather than the mediastinal lymph node

[ Adenocarcinoma TGLs = 12-27 ]

\* Mammary Gland Hyperplasia Minimal

[ Hyperplasia TGLs = 15-8-1 ]

Mesentery Adenocarcinoma Metastatic (Uterus)

Note: acini and sheets of pleomorphic neoplastic pancreatic epithelial cells within dense fibrous connective tissue (schirrous), scattered necrosis present

[ Adenocarcinoma TGLs = 6-26 ]

\* Pancreas Adenocarcinoma Metastatic (Uterus)

Note: pancreas almost completely effaced by a pleomorphic population of epithelial cells arranged as acini, ducts and sheets, acini and ducts lined by cuboidal cells

Note: cuboidal epithelial cells had large vesicular round nuclei with enlarged nucleoli, rare zymogen granules noted, scirrhous respnse to neoplasm

\* Spleen Leukemia Granulocytic

Note: pleomorphic population atypical cells with large anisokaryotic vesicular nuclei and large nucleoli, some nuclei are bean shaped, severe lymphoid depletion

Note: neoplastic cells have abundant eosinophilic cytoplasm, spleen almost completely effaced by neoplastic population, megakaryocytes present

Note: mitoses frequent in the neoplasm, 5-7 per 400x field

[ Leukemia Granulocytic TGLs = 4-6 ]

\* Stomach, Forestomach Adenocarcinoma Metastatic (Uterus)

Hyperkeratosis Moderate

Epithelium Hyperplasia Marked

Inflammation Chronic Active, Moderate

Ulcer Moderate

[ Hyperkeratosis TGLs = 18-4-1, 19-4-1 ]

[ Hyperplasia TGLs = 18-4-1, 19-4-1 ]

[ Inflammation TGLs = 18-4-1, 19-4-1 ]

\* Thymus Atrophy Marked

\* Thyroid Gland C Cell Hyperplasia Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 345

TRT#: 6

SEX: Female

DAY ON TEST: 686

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105345

ORGAN AND ACCOUNTABLE SITE STATUS

* Urinary Bladder	Follicle	Hypertrophy	Minimal
* Uterus		Adenocarcinoma	Metastatic (Uterus)
		Adenocarcinoma	

Note: neoplasm consists of acini lined by atypical cuboidal epithelial cells with large nuclei and single to multiple enlarged nucleoli, 1-2 mitoses 400x field

Note: extensive necrosis and neutrophilic inflammation within the neoplasm, focus of squamous differentiation with keratinization

[ Adenocarcinoma TGLs = 9-23+23-1 ]

PRIMARY CAUSE OF DEATH - Uterus Adenocarcinoma



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 346

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105346

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Bone
- \* Bone Marrow
- \* Brain
- \* Clitoral Gland
- \* Esophagus
- \* Harderian Gland
- \* Heart
- \* Intestine Large, Cecum
- \* Intestine Large, Colon
- \* Intestine Large, Rectum
- \* Intestine Small, Duodenum
- \* Intestine Small, Ileum
- \* Intestine Small, Jejunum
- \* Islets, Pancreatic
- \* Lymph Node, Mandibular
- \* Lymph Node, Mesenteric
- \* Nose
- \* Pancreas
- \* Parathyroid Gland
- \* Salivary Glands
- \* Skin
- \* Stomach, Forestomach
- \* Stomach, Glandular
- \* Trachea
- \* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

- \* Adrenal Cortex      Angiectasis      Mild
- \* Adrenal Medulla      Pheochromocytoma Benign
- \* Eye      Retina      Atrophy      Mild
- \* Kidney      Pelvis      Mineralization      Minimal
- \* Liver      Basophilic Focus      Multiple
- Clear Cell Focus      Multiple
- Eosinophilic Focus
- Fatty Change      Minimal
- Oval Cell      Hyperplasia      Minimal
- Hepatocyte      Hypertrophy      Moderate
- [ Clear Cell Focus    TGLs = 4-6 ]
- \* Lung      Infiltration Cellular      Histiocyte, Minimal
- [ Infiltration Cellular    TGLs = 5-22, 8-2 ]
- \* Mammary Gland      Duct      Dilatation      Mild
- Fibroadenoma
- [ Fibroadenoma    TGLs = 1-21 ]
- \* Ovary      Cyst      Mild
- Note: bursal cyst
- [ Cyst    TGLs = 7-7 ]
- \* Pituitary Gland      Pars Distalis      Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

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First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 346

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105346

ORGAN AND ACCOUNTABLE SITE STATUS

* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thymus		Hemorrhage	Minimal
	[ Hemorrhage TGLs = 3-3 ]		
* Thyroid Gland		C Cell	Hyperplasia
		Follicle	Hypertrophy
* Uterus		Endometrium	Hyperplasia
			Hyperplasia
	[ Hyperplasia TGLs = 6-7 ]		

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 347

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105347

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Esophagus
* Eye	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Moderate
* Brain		Compression	Minimal
	[ Compression TGLs = 5-1 ]		
* Clitoral Gland	Duct	Cyst	Mild
	[ Cyst TGLs = 1-23 ]		
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
	Hepatocyte	Hypertrophy	Moderate
	[ Eosinophilic Focus TGLs = 7-24 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
	[ Fibroadenoma TGLs = 4-22 ]		
	[ Hyperplasia TGLs = 2-8-1 ]		
Mesentery	Fat	Necrosis	Minimal
	[ Necrosis TGLs = 3-21 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 347

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105347

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Pituitary Gland [ Adenoma TGLs = 6-1 ]	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation Pigmentation	Minimal Minimal
* Thyroid Gland	C Cell C Cell	Adenoma Hyperplasia	 Minimal

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 348

TRT#: 6

SEX: Female

DAY ON TEST: 614

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105348

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

- |                           |                          |                          |                          |
|---------------------------|--------------------------|--------------------------|--------------------------|
| * Bone                    | * Bone Marrow            | * Brain                  | * Clitoral Gland         |
| * Esophagus               | * Harderian Gland        | * Heart                  | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Ileum | * Islets, Pancreatic     | * Kidney                 |
| * Lung                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Nose                   |
| * Ovary                   | * Pancreas               | * Parathyroid Gland      | * Pituitary Gland        |
| * Skin                    | * Spleen                 | * Stomach, Forestomach   | * Stomach, Glandular     |
| * Trachea                 | * Urinary Bladder        |                          |                          |

**MISSING**

- |          |        |
|----------|--------|
| * Thymus | Vagina |
|----------|--------|

**AUTO PRECLUDES DIAG.**

- |                 |                          |                             |                            |
|-----------------|--------------------------|-----------------------------|----------------------------|
| * Eye           | * Intestine Large, Cecum | * Intestine Small, Duodenum | * Intestine Small, Jejunum |
| * Thyroid Gland |                          |                             |                            |

**OBSERVATIONS**

- |                                                                                                                                                                                                                   |             |                            |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------|------------------|
| * Adrenal Cortex                                                                                                                                                                                                  |             | Angiectasis                | Mild             |
|                                                                                                                                                                                                                   |             | Vacuolization Cytoplasmic  | Minimal          |
| * Adrenal Medulla                                                                                                                                                                                                 |             | Pheochromocytoma Malignant |                  |
| Note: adrenal totally effaced by neoplasm arranged in small packets and nests in a fine connective tissue stroma, capsule and peripheral to capsule invaded by mass<br>[ Pheochromocytoma Malignant TGLs = 2-21 ] |             |                            |                  |
| * Liver                                                                                                                                                                                                           |             | Basophilic Focus           |                  |
|                                                                                                                                                                                                                   |             | Fatty Change               | Minimal          |
|                                                                                                                                                                                                                   | Bile Duct   | Hyperplasia                | Minimal          |
|                                                                                                                                                                                                                   | Hepatocyte  | Hypertrophy                | Mild             |
| * Mammary Gland                                                                                                                                                                                                   |             | Hyperplasia                | Minimal          |
| * Salivary Glands                                                                                                                                                                                                 |             | Inflammation               | Chronic, Minimal |
| * Uterus                                                                                                                                                                                                          |             | Adenoma                    |                  |
|                                                                                                                                                                                                                   | Endometrium | Hyperplasia                | Cystic, Minimal  |
| Note: dilatation of uterus was not an option so cystic endometrial hyperplasia was used<br>[ Adenoma TGLs = 3-22 ]<br>[ Hyperplasia TGLs = 1-7 ]                                                                  |             |                            |                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 348

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 614

**DOSE:** 15 MG/KG

**DISP:** Natural Death

**HISTO:** 110520105348

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH

- Adrenal Medulla Pheochromocytoma Malignant

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 349

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105349

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Moderate
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Mild
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	Multiple
		Galactocele	Mild
Note: fibroadenoma on slide 8-1 also [ Fibroadenoma TGLs = 1-21 ] [ Galactocele TGLs = 3-22 ]			
* Ovary		Cyst	Minimal
Note: bursal cyst [ Cyst TGLs = 2-7 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 349

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105349

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
* Thymus		Hemorrhage	Minimal
	[ Hemorrhage TGLs = 4-3 ]		
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Mild
		Metaplasia	Squamous, Minimal



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 350

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105350

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Angiectasis TGLs = 4-22 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 5-24 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 3-8-1 ]		
* Ovary	Follicle	Cyst	Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
	[ Hyperplasia TGLs = 6-1 ]		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 350

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105350

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: hyperplasia also present on slide 7  
[ Hyperplasia TGLs = 1-21, 2-23 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 351

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105351

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
Note: eosinophilic foci on slide 21 [ Fatty Change TGLs = 1-21 ]			
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland	Duct	Dilatation	Mild
* Nose			
Note: acute inflammation beneath tooth			
* Pituitary Gland	Pars Distalis	Cyst	Multiple
	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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CAS Number: 32534-81-9

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Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 352

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105352

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Spleen                    | * Stomach, Forestomach   | * Trachea                  | * Urinary Bladder         |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                                                                                                  |            |                        |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                                 |            | Angiectasis            | Mild                |
|                                                                                                                                                                                  |            | Hypertrophy            | Focal, Minimal      |
| * Liver                                                                                                                                                                          |            | Basophilic Focus       | Multiple            |
|                                                                                                                                                                                  |            | Clear Cell Focus       | Multiple            |
|                                                                                                                                                                                  |            | Eosinophilic Focus     | Multiple            |
|                                                                                                                                                                                  |            | Fatty Change           | Minimal             |
|                                                                                                                                                                                  |            | Hepatocellular Adenoma | Multiple            |
|                                                                                                                                                                                  | Bile Duct  | Hyperplasia            | Minimal             |
|                                                                                                                                                                                  | Hepatocyte | Hypertrophy            | Moderate            |
| Note: TGL3 - microvesicular vacuolization within adenoma which compressed adjacent hepatic parenchyma, adenoma also present on slide 6<br>[ Hepatocellular Adenoma TGLs = 3-22 ] |            |                        |                     |
| * Lung                                                                                                                                                                           |            | Infiltration Cellular  | Histiocyte, Minimal |
|                                                                                                                                                                                  |            | Mineralization         | Minimal             |
| [ Infiltration Cellular TGLs = 5-23 ]                                                                                                                                            |            |                        |                     |
| * Mammary Gland                                                                                                                                                                  | Duct       | Dilatation             | Minimal             |
|                                                                                                                                                                                  |            | Hyperplasia            | Minimal             |
| [ Hyperplasia TGLs = 1-8-1 ]                                                                                                                                                     |            |                        |                     |
| Mesentery                                                                                                                                                                        | Fat        | Necrosis               | Mild                |
| [ Necrosis TGLs = 2-21 ]                                                                                                                                                         |            |                        |                     |
| * Ovary                                                                                                                                                                          | Follicle   | Cyst                   | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 352

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105352

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland	Pars Intermed Pars Distalis	Adenoma Hyperplasia	Focal, Minimal
Note: adenoma in pars intermedia consists of round to polygonal cells with moderate amounts of eosinophilic cytoplasm and round to ovoid vesicular nuclei			
Note: adenoma compresses adjacent pars intermedia, cells resemble those of pars distalis, but mass is present in intermedia, 2 mitoses per 400x field			
[ Hyperplasia TGLs = 4-1 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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Date Report Requested: 07/28/2016  
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 Lab: SRI

ANIMAL ID: 353

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105353

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric |
| * Nose                     | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

Vagina

OBSERVATIONS

- |                  |                                                          |                             |                         |
|------------------|----------------------------------------------------------|-----------------------------|-------------------------|
| * Adrenal Cortex |                                                          | Angiectasis                 | Minimal                 |
| * Bone Marrow    | Myeloid Cell                                             | Hyperplasia                 | Mild                    |
| * Brain          |                                                          | Compression                 | Moderate                |
|                  | [ Compression TGLs = 9-1 ]                               |                             |                         |
| * Kidney         |                                                          | Cyst                        |                         |
|                  | Transit Epithe                                           | Hyperplasia                 | Mild                    |
|                  | Pelvis                                                   | Inflammation                | Chronic Active, Minimal |
|                  | Pelvis                                                   | Mineralization              | Mild                    |
|                  | [ Cyst TGLs = 7-5 ]                                      |                             |                         |
| * Liver          |                                                          | Fatty Change                | Mild                    |
|                  | Bile Duct                                                | Hyperplasia                 | Minimal                 |
|                  | Hepatocyte                                               | Hypertrophy                 | Moderate                |
| * Lung           |                                                          | Infiltration Cellular       | Histiocyte, Minimal     |
|                  | [ Infiltration Cellular TGLs = 11-2 ]                    |                             |                         |
| * Mammary Gland  |                                                          | Carcinoma                   |                         |
|                  |                                                          | Galactocele                 | Mild                    |
|                  | [ Carcinoma TGLs = 1-21,5-22,2,3,3-8-1,4,4-8,8-1,21,22 ] |                             |                         |
| * Ovary          |                                                          | Cyst                        | Multiple, Marked        |
|                  | [ Cyst TGLs = 6-7 ]                                      | Granulosa Cell Tumor Benign |                         |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 353

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105353

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland [ Adenoma TGLs = 8-1 ]	Pars Distalis	Adenoma	
* Spleen		Pigmentation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus	Cervix	Hyperkeratosis	Marked
	Endometrium	Hyperplasia	Cystic, Moderate

Note: acute inflammation in uterus

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 354

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105354

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Moderate
		Hyperplasia	Focal, Minimal
* Brain		Compression	Moderate
[ Compression TGLs = 3-1 ]			
* Kidney		Nephropathy	Minimal
* Liver		Eosinophilic Focus	Multiple
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Moderate
[ Hepatocellular Adenoma TGLs = 1-6 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Mild
* Ovary		Hyperplasia	Tubulostromal, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-1 ]			
* Spleen		Pigmentation	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 355

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105355

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Kidney		Nephropathy	Minimal
* Liver		Clear Cell Focus	
	Bile Duct	Cyst	Mild
		Eosinophilic Focus	
* Pituitary Gland	Hepatocyte	Hypertrophy	Moderate
	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Hyperplasia TGLs = 2-1 ]		
* Salivary Glands	Sublingual GI	Ectopic Tissue	Mild
	Note: ectopic parotid salivary gland in sublingual salivary gland		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 356

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105356

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 6-1 ]		
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Fatty Change	Marked
	Hepatocyte	Hypertrophy	Moderate
	Note: clear cell focus consists of vacuolated hepatocytes (microvesicular and macrovesicular vacuolization)		
	[ Clear Cell Focus TGLs = 4-22 ]		
	[ Fatty Change TGLs = 3-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 8-24, 9-25, 10-26 ]		
* Mammary Gland	Duct	Dilatation	Minimal
		Fibroadenoma	
		Galactocele	Moderate
		Inflammation	Granulomatous, Minimal
	[ Dilatation TGLs = 1-8-1 ]		
	[ Fibroadenoma TGLs = 2-21 ]		
	[ Galactocele TGLs = 5-23 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 356

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105356

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Ovary		Cyst	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 7-1 ]		
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Stomach, Forestomach	Epithelium	Hyperkeratosis	Mild
		Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal
		Ulcer	Minimal
	[ Hyperkeratosis TGLs = 11-4-1, 11-4-2 ]		
	[ Hyperplasia TGLs = 11-4-1, 11-4-2 ]		
	[ Inflammation TGLs = 11-4-1 ]		
	[ Ulcer TGLs = 11-4-1 ]		
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 357

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105357

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Salivary Glands           | * Skin                   | * Stomach, Forestomach     | * Thymus                  |
| * Trachea                   | * Urinary Bladder        |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                               |                |                                  |                |
|-------------------------------|----------------|----------------------------------|----------------|
| * Adrenal Cortex              |                | Angiectasis                      | Minimal        |
|                               |                | Hyperplasia                      | Focal, Minimal |
| * Kidney                      | Pelvis         | Mineralization                   | Minimal        |
| * Liver                       |                | Basophilic Focus                 | Multiple       |
|                               |                | Clear Cell Focus                 | Multiple       |
|                               |                | Fatty Change                     | Minimal        |
|                               | Hepatocyte     | Hypertrophy                      | Mild           |
| Lymph Node                    | Mediastinal    | Pigmentation                     | Mild           |
| [ Pigmentation TGLs = 3-22 ]  |                |                                  |                |
| * Mammary Gland               |                | Fibroadenoma                     |                |
| [ Fibroadenoma TGLs = 2-8-1 ] |                |                                  |                |
| * Spleen                      |                | Hematopoietic Cell Proliferation | Minimal        |
|                               |                | Pigmentation                     | Minimal        |
| * Stomach, Glandular          |                | Mineralization                   | Minimal        |
| * Thyroid Gland               | C Cell         | Adenoma                          | Multiple       |
|                               | C Cell         | Hyperplasia                      | Moderate       |
|                               | Follicular Cel | Hyperplasia                      | Mild           |
|                               | Follicle       | Hypertrophy                      | Minimal        |
| * Uterus                      |                | Granular Cell Tumor Benign       |                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 357

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105357

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Endometrium

Hyperplasia

Cystic, Mild

Note: nodular mass on serosal surface of uterus with round to polygonal cells containing a granular, pale basophilic cytoplasm within a moderate collagenous stroma

Note: collagenous stroma was trichrome positive

[ Granular Cell Tumor Benign TGLs = 1-21 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 358

TRT#: 6

SEX: Female

DAY ON TEST: 569

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105358

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Skin	* Stomach, Forestomach	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Hematopoietic Cell Proliferation Leukemia Granulocytic	Minimal
Note: small foci of neoplastic granulocytes similar to those described in the spleen present in the adrenal cortex			
* Bone Marrow	Myeloid Cell	Hyperplasia Leukemia Granulocytic	Moderate
Note: rare cells suggestive of neoplastic granulocytes present in marrow			
* Int Lg Colon			
Note: sarcoma adjacent to large intestine on serosal surface			
* Kidney	Renal Tubule Pelvis	Dilatation Mineralization	Mild Minimal
* Liver		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Mild
* Lung		Infiltration Cellular Schwannoma Malignant	Histiocyte, Minimal Metastatic (Uterus)
Note: neoplastic mass consisting of fusiform cells in pulmonary parenchyma, and arterial and bronchial walls, 1-2 mitoses per 400x field			
	[ Infiltration Cellular TGLs = 7-21 ]		
	[ Schwannoma Malignant TGLs = 9-23 ]		
* Lymph Node, Mesenteric		Pigmentation	Hemosiderin, Minimal
	[ Pigmentation TGLs = 5-5 ]		
* Mammary Gland		Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 358

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 569

**DOSE:** 15 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105358

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Salivary Glands	Parotid GI	Atrophy	Mild
	Duct, Parotid GI	Inflammation	Acute, Minimal
	Parotid GI	Vacuolization Cytoplasmic	Mild
Note: neutrophils in lumen of ducts, hyaline droplets in duct epithelium Note: hyaline droplet degeneration in duct epithelium			
* Spleen		Hemorrhage	Moderate
		Leukemia Granulocytic	
Note: two large hematomas, consisting of hemorrhage, fibrin and karyorrhectic neutrophils rimmed by fibrous connective tissue in parenchyma Note: sheets of neoplastic granulocytes large anisokaryotic, vesicular nuclei and large nucleoli, some cells have horseshoe shaped to segmented nuclei in red pulp Note: spleen partially effaced by neoplastic population, 4-6 mitoses per 400x field [ Hemorrhage TGLs = 3-6 ]			
* Stomach, Glandular		Erosion	Minimal
		Inflammation	Acute, Mild
[ Erosion TGLs = 10-25 ] [ Inflammation TGLs = 10-25 ]			
* Thymus		Atrophy	Marked
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Moderate
* Uterus		Schwannoma Malignant	
[ Schwannoma Malignant TGLs = 2-24, 2-24-1, 2-24-2 ]			

**PRIMARY CAUSE OF DEATH** - Uterus Schwannoma Malignant

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 359

TRT#: 6

SEX: Female

DAY ON TEST: 701

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105359

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Parathyroid Gland	* Skin	* Trachea

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Adenocarcinoma	Metastatic (Uterus)
		Angiectasis	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Adenocarcinoma	Metastatic (Uterus)
		Basophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 8-8-1 ]		
Mesentery		Adenocarcinoma	Metastatic (Uterus)
	[ Adenocarcinoma TGLs = 2-21, 6-23 ]		
* Ovary		Adenocarcinoma	Metastatic (Uterus)
* Pancreas		Adenocarcinoma	Metastatic (Uterus)
	Note: Anisokaryosis and enlarged single to multiple nucleoli were observed in the neoplastic epithelial cells		
	Note: acinar and papillary structures in pancreatic parenchyma and on surface of the pancreas, scirrhus reaction		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Salivary Glands	Duct, Parotid GI	Inflammation	Acute, Marked
	Note: neutrophilic infiltrate extends from ducts into adjacent parotid salivary gland interstitium and adjacent connective tissue		
* Spleen		Adenocarcinoma	Metastatic (Uterus)
	Lymph Follic	Atrophy	Mild
		Pigmentation	Mild
	[ Atrophy TGLs = 1-6 ]		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 359

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 701

**DOSE:** 15 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105359

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Stomach, Forestomach		Adenocarcinoma	Metastatic (Uterus)
* Stomach, Glandular		Adenocarcinoma	Metastatic (Uterus)
* Thymus		Atrophy	Marked
Note: neoplasm in mediastinal lymph node within section of atrophic thymus			
* Thyroid Gland	C Cell	Hyperplasia	Mild
Tissue NOS		Adenocarcinoma	Metastatic (Uterus)
Note: neoplasm on capsular surface of liver, within liver parenchyma and within mesentery of stomach			
[ Adenocarcinoma TGLs = 7-24 ]			
* Urinary Bladder		Adenocarcinoma	Metastatic (Uterus)
* Uterus		Adenocarcinoma	
	Endometrium	Hemorrhage	Mild
		Hyperplasia	Cystic, Mild
Note: mass consisting of acini in endometrium and myometrium, neoplastic cells were cuboidal with large vesicular, anisokaryotic, nuclei and large nucleoli			
Note: islands of neoplastic epithelial cells in myometrium			
[ Adenocarcinoma TGLs = 4-22 ]			

**PRIMARY CAUSE OF DEATH** - Uterus Adenocarcinoma

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 360

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105360

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Ovary                   | * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          |
| * Stomach, Forestomach    | * Thymus                    | * Trachea                | * Urinary Bladder          |
| * Uterus                  |                             |                          |                            |

MISSING

Vagina

OBSERVATIONS

- |                                |               |                       |                     |
|--------------------------------|---------------|-----------------------|---------------------|
| * Kidney                       | Pelvis        | Mineralization        | Minimal             |
| * Liver                        |               | Basophilic Focus      | Multiple            |
|                                |               | Clear Cell Focus      | Multiple            |
|                                | Hepatocyte    | Hypertrophy           | Moderate            |
| * Lung                         |               | Infiltration Cellular | Histiocyte, Minimal |
| Lymph Node                     | Inguinal      | Pigmentation          | Minimal             |
| [ Pigmentation TGLs = 3-22 ]   |               |                       |                     |
| * Mammary Gland                |               | Hyperplasia           | Minimal             |
| [ Hyperplasia TGLs = 2-8-1 ]   |               |                       |                     |
| * Pituitary Gland              | Pars Distalis | Hyperplasia           | Focal, Minimal      |
| * Skin                         |               | Hyperkeratosis        | Minimal             |
|                                | Epidermis     | Hyperplasia           | Minimal             |
|                                |               | Inflammation          | Acute, Minimal      |
|                                |               | Ulcer                 | Minimal             |
| [ Hyperkeratosis TGLs = 1-21 ] |               |                       |                     |
| [ Hyperplasia TGLs = 1-21 ]    |               |                       |                     |
| [ Inflammation TGLs = 1-21 ]   |               |                       |                     |
| [ Ulcer TGLs = 1-21 ]          |               |                       |                     |
| * Spleen                       |               | Pigmentation          | Minimal             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 360

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105360

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 361

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105361

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: microvesicular vacuolization of hepatocytes in clear cell focus [ Clear Cell Focus TGLs = 2-22 ]		
* Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Minimal
	[ Fibroadenoma TGLs = 1-21, 3-23 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Mild
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 362

TRT#: 6

SEX: Female

DAY ON TEST: 610

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105362

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	Tissue NOS
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Clitoral Gland	Duct	Cyst	Mild
		Inflammation	Chronic Active, Minimal
	[ Cyst TGLs = 1-8 ]		
	[ Inflammation TGLs = 1-8 ]		
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Eosinophilic Focus TGLs = 2-6 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 7-21 ]		
* Ovary		Cyst	Moderate
	Note: bursal cyst		
	[ Cyst TGLs = 5-7 ]		
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thymus		Hemorrhage	Mild
	[ Hemorrhage TGLs = 4-3 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 362

TRT#: 6

SEX: Female

DAY ON TEST: 610

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105362

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

---

PRIMARY CAUSE OF DEATH

- Mammary Gland Fibroadenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 363

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105363

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Hypertrophy TGLs = 2-6 ]		
* Mammary Gland	Duct	Dilatation	Minimal
		Hyperplasia	Minimal
	[ Hyperplasia TGLs = 1-8-1 ]		
* Pancreas		Atrophy	Minimal
Note: slide 4			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 364

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105364

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 1-8-1 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 365

TRT#: 6

SEX: Female

DAY ON TEST: 472

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105365

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Bone Marrow             |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Ovary                     | * Pancreas               | * Parathyroid Gland        | * Skin                    |
| * Trachea                   | * Urinary Bladder        | * Uterus                   |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                                    |               |                           |                |
|--------------------------------------------------------------------|---------------|---------------------------|----------------|
| * Adrenal Cortex                                                   |               | Angiectasis               | Minimal        |
|                                                                    |               | Vacuolization Cytoplasmic | Minimal        |
| * Brain                                                            |               | Compression               | Moderate       |
| Note: cyst in parenchyma of cerebrum<br>[ Compression TGLs = 4-1 ] |               |                           |                |
| * Kidney                                                           | Pelvis        | Mineralization            | Minimal        |
| * Liver                                                            |               | Basophilic Focus          |                |
|                                                                    |               | Fatty Change              | Marked         |
|                                                                    | Hepatocyte    | Hypertrophy               | Moderate       |
| Note: Predominantly macrovesicular, rare microvesicular            |               |                           |                |
| * Mammary Gland                                                    | Duct          | Dilatation                | Moderate       |
| [ Dilatation TGLs = 1-8-1 ]                                        |               |                           |                |
| * Pituitary Gland                                                  | Pars Distalis | Adenoma                   |                |
| [ Adenoma TGLs = 3-1 ]                                             |               |                           |                |
| * Salivary Glands                                                  | Parotid GI    | Inflammation              | Acute, Minimal |
|                                                                    | Parotid GI    | Vacuolization Cytoplasmic | Minimal        |
| * Spleen                                                           |               | Pigmentation              | Mild           |
| * Stomach, Forestomach                                             |               | Edema                     | Moderate       |
|                                                                    |               | Hyperkeratosis            | Mild           |
|                                                                    | Epithelium    | Hyperplasia               | Moderate       |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 365

TRT#: 6

SEX: Female

DAY ON TEST: 472

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105365

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Edema TGLs = 5-4-1 ]

[ Hyperkeratosis TGLs = 5-4-1 ]

[ Hyperplasia TGLs = 5-4-1 ]

[ Inflammation TGLs = 5-4-1 ]

Inflammation

Chronic, Minimal

\* Stomach, Glandular

Inflammation

Acute, Minimal

Ulcer

Mild

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 366

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105366

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Eye	Retina	Atrophy	Mild
* Kidney		Nephropathy	Minimal
		Pigmentation	Minimal
* Liver		Basophilic Focus	Multiple
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 4-21, 5-22 ]		
* Mammary Gland	Duct	Dilatation	Minimal
	[ Dilatation TGLs = 3-8-1 ]		
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 366

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105366

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hyperplasia TGLs = 1-7 ]

[ Polyp Stromal TGLs = 2-23 ]

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 367

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105367

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
Note: clear cell focus consists of hepatocytes with microvesicular vacuolization [ Clear Cell Focus TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
[ Hyperplasia TGLs = 2-1 ]			
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 368

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105368

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Brain		Compression	Mild
[ Compression TGLs = 4-1 ]			
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Moderate
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLs = 2-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 5-1 ]			
* Salivary Glands	Parotid GI	Vacuolization Cytoplasmic	Mild
* Spleen		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Moderate
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 368

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105368

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

\* Uterus

Endometrium

Hyperplasia

Cystic, Mild

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 369

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105369

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
		Vacuolization Cytoplasmic	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Pituitary Gland	Pars Distalis	Cyst	Multiple
		Hematopoietic Cell Proliferation	Mild
* Spleen		Hyperplasia	Mild
* Thyroid Gland	C Cell	Hypertrophy	Moderate
	Follicle		
* Uterus		Sarcoma Stromal	
		Note: endometrial stromal sarcoma consists of a compact bulging mass of spindle-shaped cells in endometrium which extends to serosal surface	
		Note: spindle-shaped cells in serosal surface are loosely arranged with clear cystic spaces within the mass, 2-3 mitoses per 400x field	
		Note: endometrial fibrosis may be a component of stromal polyp or sarcoma	
		[ Sarcoma Stromal TGLs = 1,2,4,4-7,7-22+25,23,7,25 ]	
Vagina		Sarcoma Stromal	Metastatic (Uterus)

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 369

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105369

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: polypoid masses covered with stratified squamous epithelium protruding into the lumen, stroma of polyp moderately dense fibroblasts and collagen

[ Sarcoma Stromal TGLs = 3-24 ]

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 370

TRT#: 6

SEX: Female

DAY ON TEST: 715

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105370

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Harderian Gland	* Intestine Large, Colon	* Intestine Large, Rectum	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Uterus		

MISSING

Vagina

AUTO PRECLUDES DIAG.

* Eye	* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Pancreas
* Salivary Glands	* Thymus	* Thyroid Gland	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex	Hyperplasia	Focal, Minimal
* Bone Marrow	Histiocytic Sarcoma	
* Brain	Hemorrhage	Multifocal, Mild
* Heart	Cardiomyopathy	Minimal
* Liver	Histiocytic Sarcoma	

Note: liver partially effaced by a sheets of a neoplastic population of large round cells with moderate amounts of cytoplasm, compatible with histiocytes

Note: rare multinucleate giant cells present in neoplasm, coagulative hepatocellular necrosis associated with neoplasm

[ Histiocytic Sarcoma TGLs = 3-6, 4-6 ]

* Mammary Gland	Hyperplasia	Minimal
* Pituitary Gland	Pigmentation	Hemosiderin, Minimal
* Spleen	Histiocytic Sarcoma	

[ Histiocytic Sarcoma TGLs = 6-6 ]

PRIMARY CAUSE OF DEATH

- Spleen Histiocytic Sarcoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 371

TRT#: 6

SEX: Female

DAY ON TEST: 694

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105371

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Bone Marrow              | * Esophagus               | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

**MISSING**

Vagina

**OBSERVATIONS**

- |                                                                                                                                                                    |               |                          |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------|------------------|
| * Adrenal Cortex                                                                                                                                                   |               | Angiectasis              | Minimal          |
|                                                                                                                                                                    |               | Hyperplasia              | Focal, Minimal   |
| * Adrenal Medulla                                                                                                                                                  |               | Pheochromocytoma Complex |                  |
| Note: relatively well delineated mass of large, polygonal, pale basophilic medullary cells and neural tissue extending into cortex and compressing adjacent cortex |               |                          |                  |
| Note: well-differentiated ganglion cells in neural tissue                                                                                                          |               |                          |                  |
| * Brain                                                                                                                                                            |               | Compression              | Moderate         |
| [ Compression TGLs = 3-1 ]                                                                                                                                         |               |                          |                  |
| * Clitoral Gland                                                                                                                                                   |               | Inflammation             | Chronic, Minimal |
| [ Inflammation TGLs = 2-8 ]                                                                                                                                        |               |                          |                  |
| * Eye                                                                                                                                                              | Retina        | Atrophy                  | Mild             |
| * Heart                                                                                                                                                            |               | Cardiomyopathy           | Minimal          |
| * Kidney                                                                                                                                                           | Pelvis        | Mineralization           | Minimal          |
|                                                                                                                                                                    |               | Nephropathy              | Minimal          |
| * Liver                                                                                                                                                            | Bile Duct     | Hyperplasia              | Minimal          |
|                                                                                                                                                                    | Hepatocyte    | Hypertrophy              | Moderate         |
| * Mammary Gland                                                                                                                                                    |               | Carcinoma                |                  |
|                                                                                                                                                                    |               | Hyperplasia              | Mild             |
| [ Carcinoma TGLs = 1-21 ]                                                                                                                                          |               |                          |                  |
| * Pituitary Gland                                                                                                                                                  | Pars Distalis | Adenoma                  |                  |
| [ Adenoma TGLs = 4-1 ]                                                                                                                                             |               |                          |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 371

TRT#: 6

SEX: Female

DAY ON TEST: 694

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105371

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Minimal
[ Hyperplasia	TGLs = 8-7 ]		

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 372

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105372

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Hepatocyte	Eosinophilic Focus	
	[ Clear Cell Focus TGLs = 3-22 ]	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Hemorrhage	Minimal
	[ Hemorrhage TGLs = 2-5 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 373

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105373

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                  |                                |                       |                     |
|--------------------------------------------------|--------------------------------|-----------------------|---------------------|
| * Adrenal Cortex                                 |                                | Angiectasis           | Marked              |
| * Kidney                                         |                                | Pigmentation          | Minimal             |
| * Liver                                          |                                | Basophilic Focus      | Multiple            |
|                                                  |                                | Clear Cell Focus      | Multiple            |
|                                                  |                                | Eosinophilic Focus    |                     |
|                                                  |                                | Fatty Change          | Minimal             |
|                                                  | Bile Duct                      | Hyperplasia           | Minimal             |
|                                                  | Hepatocyte                     | Hypertrophy           | Moderate            |
| * Lung                                           |                                | Infiltration Cellular | Histiocyte, Minimal |
| * Mammary Gland                                  |                                | Hyperplasia           | Minimal             |
| * Nose                                           |                                |                       |                     |
| Note: granulomatous inflammation in tooth region |                                |                       |                     |
| * Pituitary Gland                                | Pars Distalis                  | Adenoma               |                     |
| * Skin                                           |                                | Hyperkeratosis        | Minimal             |
|                                                  |                                | Inflammation          | Chronic, Mild       |
|                                                  | [ Hyperkeratosis TGLs = 1-21 ] |                       |                     |
|                                                  | [ Inflammation TGLs = 1-21 ]   |                       |                     |
| * Spleen                                         |                                | Pigmentation          | Minimal             |
| * Thyroid Gland                                  | Follicular Cel                 | Adenoma               |                     |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 373

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105373

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 374

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105374

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hyperplasia	Focal, Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
		Fibrosis	Mild
Note: TGL 1 consists principally of skeletal muscle with a focal area of fibrosis and dilated ducts in the mammary gland [ Fibrosis TGLs = 1-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Mild
[ Adenoma TGLs = 4-1 ]			
* Skin		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLs = 2-22 ]			
* Spleen		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 374

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105374

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Minimal
* Trachea		Inflammation	Chronic, Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Marked
[ Hyperplasia	TGLs = 3-7 ]		

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 375

TRT#: 6

SEX: Female

DAY ON TEST: 655

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105375

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Colon
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Glandular	* Trachea	* Urinary Bladder

**MISSING**

Vagina

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Thyroid Gland	

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Minimal
[ Compression TGLs = 4-1 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Moderate
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Minimal
[ Hyperplasia TGLs = 1-8-1 ]			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 2-21 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 5-1 ]			
* Salivary Glands	Duct, Parotid GI	Inflammation	Acute, Minimal
* Spleen	Lymph Follic	Atrophy	Mild
		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 375

TRT#: 6

SEX: Female

DAY ON TEST: 655

DOSE: 15 MG/KG

DISP: Natural Death

HISTO: 110520105375

ORGAN AND ACCOUNTABLE SITE STATUS

Hemorrhage

Mild

[ Hemorrhage TGLs = 3-3 ]

Cyst

Minimal

\* Uterus

Serosa

Polyp Stromal

[ Cyst TGLs = 7-7 ]

[ Polyp Stromal TGLs = 6-7 ]

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 376

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105376

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Moderate
* Clitoral Gland	Duct	Cyst	Mild
[ Cyst TGLs = 3-22 ]			
* Eye	Retina	Atrophy	Mild
* Intestine Small, Jejunum		Leiomyoma	
[ Leiomyoma TGLs = 6-23 ]			
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Moderate
	Hepatocyte	Necrosis	Minimal

Note: hepatocellular adenoma on slide 21, hypertrophic, hypereosinophilic cells compressing adjacent hepatic parenchyma

Note: eosinophilic foci and hepatocellular adenoma on slide 21

Note: large clear cell focus consisting of hepatocytes with indistinct clear spaces and hepatocytes with microvesicular and macrovesicular vacuolization

Note: TGL corresponds to microvesicular vacuolization surrounding an eosinophilic focus and a hepatocellular adenoma

Note: neutrophils in site of focal necrosis within hepatic parenchyma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 376

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105376

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Clear Cell Focus TGLs = 2-21 ]

[ Fatty Change TGLs = 1-6 ]

\* Spleen

\* Thyroid Gland

\* Uterus

C Cell

Follicle

Endometrium

Hematopoietic Cell Proliferation

Hyperplasia

Hypertrophy

Hyperplasia

Hyperplasia

Minimal

Moderate

Mild

Cystic, Marked

Atypical, Minimal

[ Hyperplasia TGLs = 4-24, 5-24 ]

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 377

TRT#: 6

SEX: Female

DAY ON TEST: 368

DOSE: 15 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105377

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Clitoral Gland            |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lung                      |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    | * Ovary                     |
| * Pancreas               | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Stomach, Forestomach   | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | * Uterus                   |                           |                             |

**MISSING**

Vagina

**OBSERVATIONS**

- |                      |                         |                                  |         |
|----------------------|-------------------------|----------------------------------|---------|
| * Adrenal Cortex     |                         | Angiectasis                      | Minimal |
| * Brain              |                         | Compression                      | Minimal |
| * Kidney             | Pelvis                  | Mineralization                   | Minimal |
| * Liver              |                         | Basophilic Focus                 |         |
|                      | Hepatocyte              | Hypertrophy                      | Marked  |
| * Mammary Gland      |                         | Hyperplasia                      | Mild    |
| * Pituitary Gland    | Pars Distalis           | Adenoma                          |         |
|                      | [ Adenoma TGLs = 1-21 ] |                                  |         |
| * Spleen             |                         | Hematopoietic Cell Proliferation | Mild    |
|                      |                         | Pigmentation                     | Minimal |
| * Stomach, Glandular |                         | Mineralization                   | Minimal |

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 378

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105378

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Adrenal Medulla		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	[ Hypertrophy TGLs = 2-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland	Duct	Dilatation	Minimal
	[ Fibroadenoma TGLs = 1-21, 5-22 ]	Fibroadenoma	
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 3-1 ]	Pigmentation	Hemosiderin, Mild
	[ Pigmentation TGLs = 3-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

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Lab: SRI

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ANIMAL ID: 378

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105378

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Stomach, Glandular		Inflammation	Chronic, Minimal
* Thymus		Mineralization	Minimal
* Thyroid Gland		Atrophy	Minimal
	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

---



Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
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 Lab: SRI

ANIMAL ID: 379

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105379

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Pigmentation	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Moderate
* Mammary Gland		Hyperplasia	Mild
Note: may be an early fibroadenoma present - fibrosis adjacent to mammary glands in one area			
[ Hyperplasia TGLs = 2-8-1 ]			
* Ovary	Follicle	Cyst	Minimal
		Hyperplasia	Tubulostromal, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 3-1 ]			
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

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**Lab:** SRI

---

**ANIMAL ID:** 379

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 15 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105379

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Polyp Stromal

[ Polyp Stromal TGLs = 1-21 ]

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 380

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105380

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                             |            |                               |                |
|-------------------------------------------------------------------------------------------------------------|------------|-------------------------------|----------------|
| * Adrenal Cortex                                                                                            |            | Angiectasis                   | Minimal        |
|                                                                                                             |            | Hypertrophy                   | Focal, Minimal |
| * Kidney                                                                                                    |            | Nephropathy                   | Minimal        |
| * Liver                                                                                                     |            | Angiectasis                   | Minimal        |
|                                                                                                             |            | Basophilic Focus              | Multiple       |
|                                                                                                             |            | Clear Cell Focus              | Multiple       |
|                                                                                                             | Bile Duct  | Cyst                          | Minimal        |
|                                                                                                             |            | Cyst                          | Mild           |
|                                                                                                             | Hepatocyte | Hypertrophy                   | Moderate       |
| Note: clear cell focus on slide 22, one cyst was a large empty space, the type of cyst was not identifiable |            |                               |                |
|                                                                                                             |            | [ Angiectasis TGLs = 1-21 ]   |                |
|                                                                                                             |            | [ Cyst TGLs = 2-22 ]          |                |
|                                                                                                             |            | [ Cyst TGLs = 3-23 ]          |                |
| Lymph Node                                                                                                  | Inguinal   | Pigmentation                  | Minimal        |
|                                                                                                             |            | [ Pigmentation TGLs = 4-8-1 ] |                |
| * Mammary Gland                                                                                             | Duct       | Dilatation                    | Minimal        |
|                                                                                                             |            | [ Dilatation TGLs = 5-8-1 ]   |                |
| * Ovary                                                                                                     |            | Cyst                          | Mild           |
| Note: bursal cyst                                                                                           |            |                               |                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 380

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 15 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105380

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Minimal
	Pars Nervosa	Inflammation	Chronic, Mild
Note: gliosis in pars nervosa			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Adenoma	Multiple
	C Cell	Hyperplasia	Moderate
	Follicular Cel	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Marked
[ Hyperplasia TGLs = 6-7 ]			

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 381

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105381

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic Active, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 382

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | Blood Vessel             | * Bone                     | * Bone Marrow             |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Stomach, Forestomach     | * Stomach, Glandular      |
| * Thymus                    | * Trachea                | * Urinary Bladder          |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                     |            |                            |                     |
|-----------------------------------------------------|------------|----------------------------|---------------------|
| * Adrenal Cortex                                    |            | Hyperplasia                | Focal, Minimal      |
|                                                     |            | Hypertrophy                | Focal, Mild         |
| * Brain                                             |            | Compression                | Mild                |
| [ Compression TGLs = 8-1 ]                          |            |                            |                     |
| * Kidney                                            | Pelvis     | Cyst                       |                     |
|                                                     |            | Mineralization             | Mild                |
| [ Cyst TGLs = 4-5 ]                                 |            |                            |                     |
| * Liver                                             |            | Basophilic Focus           | Multiple            |
|                                                     |            | Clear Cell Focus           | Multiple            |
|                                                     |            | Eosinophilic Focus         | Multiple            |
|                                                     |            | Fatty Change               | Minimal             |
|                                                     |            | Hepatodiaphragmatic Nodule |                     |
|                                                     | Bile Duct  | Hyperplasia                | Minimal             |
|                                                     | Oval Cell  | Hyperplasia                | Minimal             |
|                                                     | Hepatocyte | Hypertrophy                | Marked              |
| Note: hepatocytes with microvesicular vacuolization |            |                            |                     |
| [ Clear Cell Focus TGLs = 11-23 ]                   |            |                            |                     |
| [ Eosinophilic Focus TGLs = 11-23 ]                 |            |                            |                     |
| [ Hepatodiaphragmatic Nodule TGLs = 2-6 ]           |            |                            |                     |
| * Lung                                              |            | Infiltration Cellular      | Histiocyte, Minimal |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 382

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105382

**ORGAN AND ACCOUNTABLE SITE STATUS**

	[ Infiltration Cellular TGLs = 10-2, 6-22 ]		
* Mammary Gland		Carcinoma	
	Duct	Dilatation	Minimal
	[ Carcinoma TGLs = 1-21 ]		
	[ Dilatation TGLs = 7-8-1 ]		
* Ovary		Cyst	Marked
	Note: bursal cyst		
	[ Cyst TGLs = 5-7 ]		
* Pituitary Gland		Adenoma	
	Pars Distalis		
	Note: two foci of the neoplasm		
	[ Adenoma TGLs = 9-1 ]		
* Skin		Hyperplasia	Minimal
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
* Thyroid Gland		Hyperplasia	Mild
* Uterus		Hyperplasia	Cystic, Moderate
	[ Hyperplasia TGLs = 12-7 ]		
Zymbals GI			

Note: slides (24, 24-1) made to check for Zymbals gland neoplasm, the neoplasm was not observed in the submitted slides

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 383

TRT#: 8

SEX: Female

DAY ON TEST: 3

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105383

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

Vagina

AUTO PRECLUDES DIAG.

\* Intestine Small, Duodenum      \* Intestine Small, Ileum

OBSERVATIONS

* Liver		Fatty Change	Mild
Note: increased mitoses			
Lymph Node	Popliteal	Pigmentation	Minimal
Note: black granular to clumped pigment			
[ Pigmentation    TGLs = 2-21 ]			
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	Follicle	Hypertrophy	Moderate

PRIMARY CAUSE OF DEATH

- UNCERTAIN



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 384

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105384

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Clitoral Gl			
Note: TGL 3 corresponds to an encapsulated focal area of fat necrosis adjacent to clitoral gland, background lesion			
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	Multiple
		Hepatocellular Carcinoma	Multiple
	Hepatocyte	Hypertrophy	Marked
Note: one carcinoma has scattered foci of necrosis present, carcinoma has a few areas where trabeculae appear to be 2-3 cell layers thick [ Hepatocellular Carcinoma TGLs = 2-22, 1-21 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Ectasia	Minimal
* Mammary Gland	Duct	Dilatation	Minimal
* Ovary		Cyst	Moderate
Note: bursal cyst			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
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ANIMAL ID: 384

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105384

ORGAN AND ACCOUNTABLE SITE STATUS

[ Cyst TGLs = 4-7 ]

\* Salivary Glands

Sublingual GI

Ectopic Tissue

Mild

Submandibular GI

Inflammation

Chronic, Minimal

Note: clusters of small basophilic reserve-like cells with zymogen granules suggestive of parotid salivary gland (ectopic) within the sublingual salivary gland

\* Spleen

Pigmentation

Minimal

\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Mild

\* Uterus

Metaplasia

Squamous, Mild

Note: a few neutrophils in lumen of uterus

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 385

TRT#: 8

SEX: Female

DAY ON TEST: 647

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105385

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Harderian Gland	* Heart	* Intestine Small, Duodenum	* Lymph Node, Mandibular
* Mammary Gland	* Nose	* Parathyroid Gland	* Pituitary Gland
* Skin	* Stomach, Forestomach	* Trachea	

**MISSING**

* Eye	* Islets, Pancreatic	Vagina
-------	----------------------	--------

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Adrenal Medulla	* Intestine Large, Cecum	* Intestine Large, Rectum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Mesenteric	* Salivary Glands
* Spleen	* Thyroid Gland	* Urinary Bladder	

**OBSERVATIONS**

* Adren Cortex			
Note: pancreatic carcinoma in attached adipose tissue			
* Bone Marrow	Myeloid Cell	Hyperplasia	Moderate
* Intestine Large, Colon		Carcinoma	Metastatic (Pancreas)
Note: carcinoma in serosa and attached mesentery of colon			
* Kidney		Cyst	Multiple
Note: marked autolysis in both kidneys, cyst may correspond to hydronephrosis, pancreatic carcinoma in adjacent adipose tissue			
[ Cyst TGLs = 2-21 ]			
* Liver		Carcinoma	Metastatic (Pancreas)
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Moderate
	Hepatocyte	Necrosis	Minimal
Note: a few neutrophils in the necrotic foci			
[ Fatty Change TGLs = 5-6 ]			
* Lung		Carcinoma	Metastatic (Pancreas)
[ Carcinoma TGLs = 11-2 ]			
* Ovary		Carcinoma	Metastatic (Pancreas)

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
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**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 385

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 647

**DOSE:** 50 MG/KG

**DISP:** Natural Death

**HISTO:** 110520105385

**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Pancreas  
Carcinoma  
Note: widespread implantation of pancreatic carcinoma in abdomen, present in mesentery on slide 5  
Note: necrosis in neoplasm, eosinophilic debris within lumen of acini, pancreas almost completely effaced by carcinoma  
Note: nodules of acinar/ ductular structures lined by pleomorphic, cuboidal epithelial cells with enlarged, sometimes bizarre nuclei /nucleoli, scirrhous reaction  
[ Carcinoma TGLs = 8-7 ]

\* Saliv Glands  
Note: autolysis of parotid salivary gland

\* Stomach, Glandular  
Carcinoma  
Metastatic (Pancreas)  
Note: carcinoma present on serosal surface and in attached mesentery, carcinoma also present on slide 4-1  
[ Carcinoma TGLs = 6-4-2 ]

\* Thymus  
Atrophy  
Moderate  
Tissue NOS  
Abdominal  
Carcinoma  
Metastatic (Pancreas)  
Note: large neoplasm consisting of acini within dense fibrous connective tissue stroma (scirrhous), extensive necrosis in carcinoma, mass next to uterus  
Note: carcinoma in serosa and attached mesentery of colon, carcinoma in mesentery, carcinoma on capsular surface/serosa of liver  
Note: carcinoma in duodenum or jejunum and attached mesentery, normal pancreas on periphery of carcinoma, widespread carcinoma mesentery (TGL7-23)  
[ Carcinoma TGLs = 3-24, 3-24-1, 4-22, 7-23, 9-25, 10-26 ]

\* Uterus  
Carcinoma  
Metastatic (Pancreas)  
Note: serosal surface

**PRIMARY CAUSE OF DEATH** - Pancreas Carcinoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 386

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105386

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

Vagina

**OBSERVATIONS**

- |                  |            |                          |                |
|------------------|------------|--------------------------|----------------|
| * Adrenal Cortex |            | Angiectasis              | Minimal        |
|                  |            | Hyperplasia              | Focal, Minimal |
| * Liver          |            | Basophilic Focus         |                |
|                  |            | Cholangiofibrosis        | Moderate       |
|                  |            | Clear Cell Focus         | Multiple       |
|                  | Bile Duct  | Cyst                     | Moderate       |
|                  |            | Eosinophilic Focus       | Multiple       |
|                  |            | Fatty Change             | Minimal        |
|                  |            | Hepatocellular Adenoma   | Multiple       |
|                  |            | Hepatocellular Carcinoma | Multiple       |
|                  |            | Hepatocholangioma        |                |
|                  | Bile Duct  | Hyperplasia              | Mild           |
|                  | Hepatocyte | Hypertrophy              | Marked         |

Note: TGL3 - nodule with hypertrophic hepatocytes and large cystic bile ducts, compression of surrounding tissue

Note: multilocular biliary cysts

Note: carcinoma consists of 2 to 3 cell layer thick trabeculae of enlarged hepatocytes

Note: hepatocellular adenomas and a hepatocellular carcinoma present on slide 6

[ Hepatocellular Adenoma TGLs = 3-22, 7-6 ]

[ Hepatocellular Carcinoma TGLs = 1-21, 2-6, 5-23, 6-24 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 386

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105386

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hepatocholangioma TGLs = 3-22 ]		
[ Hypertrophy TGLs = 4-6 ]		
* Lung		Infiltration Cellular
		Histiocyte, Minimal
[ Infiltration Cellular TGLs = 8-2 ]		
* Lymph Node, Mesenteric		Ectasia
		Minimal
* Mammary Gland		Fibroadenoma
* Pituitary Gland	Pars Distalis	Hyperplasia
		Focal, Minimal
* Spleen		Hematopoietic Cell Proliferation
		Minimal
* Thyroid Gland	C Cell	Hyperplasia
		Mild
	Follicular Cel	Hyperplasia
		Minimal
	Follicle	Hypertrophy
		Mild
* Uterus		Cyst
		Squamous, Mild

Note: cystic mass lined by stratified squamous epithelium with laminated keratin as the cyst contents

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
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 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 387

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105387

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
* Brain		Compression	Minimal
	[ Compression TGLs = 14-1 ]		
* Kidney		Hydronephrosis	Moderate
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
	[ Hydronephrosis TGLs = 11-5 ]		
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Mild
		Eosinophilic Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	Note: TGL4 - mass compresses adjacent liver, greatly enlarged hepatocytes admixed with small basophilic hepatocytes, partial loss of hepatic architecture		
	[ Cyst TGLs = 3-6 ]		
	[ Hepatocellular Carcinoma TGLs = 4-23 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mediastinal	Pigmentation	Hemosiderin, Mild
	[ Hyperplasia TGLs = 13-3 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 387

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105387

ORGAN AND ACCOUNTABLE SITE STATUS

[ Pigmentation TGLs = 13-3 ]

\* Mammary Gland

Duct

Carcinoma

Multiple

Dilatation

Minimal

Galactocele

Mild

Note: TGL 1 - multilobulated neoplasm consisting of variably -sized acini lined by a pleomorphic population of epithelial cells with greatly enlarged, round nuclei

Note: TGL1 - ectatic to cystic ducts and acini in neoplasm containing eosinophilic secretions, 1-2 mitoses per 400x field

Note: TGL 1 - neoplastic cell nuclei have large single to multiple nucleoli, cellular piling prominent, moderate eosinophilic infiltrate and mineralization in mass

Note: TGL 2 - carcinoma has sheets of a pleomorphic population of epithelial cells with large, anisokaryotic, vesicular nuclei and indistinct cytoplasmic borders

Note: TGL2- 3-5 mitoses per 400x field, neutrophilic infiltrate in neoplasm, neoplasm may be present in lymph node

Note: TGL 2 also has a few small acinar structures present on the periphery of the neoplasm

[ Carcinoma TGLs = 1-21, 2-22 ]

[ Galactocele TGLs = 10-24 ]

\* Ovary

Cyst

Marked

Note: bursal cyst

[ Cyst TGLs = 5-7 ]

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLs = 15-1 ]

\* Spleen

Pigmentation

Minimal

\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Mineralization

Minimal

Ureter

Inflammation

Chronic, Mild

Mineralization

Mild

Note: yellow rhomboidal crystals in lumen of ureter

[ Inflammation TGLs = 12-25 ]

[ Mineralization TGLs = 12-25 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Moderate

[ Hyperplasia TGLs = 9-7 ]

Vagina

Polyp

Multiple

[ Polyp TGLs = 7-26, 8-26 ]



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 388

TRT#: 8

SEX: Female

DAY ON TEST: 677

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105388

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Rectum
* Islets, Pancreatic	* Kidney	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Skin	* Stomach, Forestomach
* Thymus	* Trachea	* Uterus	

MISSING

* Lymph Node, Mandibular	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Thyroid Gland	Vagina		

AUTO PRECLUDES DIAG.

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Spleen	* Stomach, Glandular
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Kidney			
Note: moderate to severe post-mortem autolysis present			
* Liver		Eosinophilic Focus	
		Hepatocellular Adenoma	Multiple
		Hepatocellular Carcinoma	Multiple
		Hepatocholangiocarcinoma	
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Minimal

Note: large portions of the liver have moderate to severe post-mortem autolysis

Note: variably sized ductular structures lined by simple cuboidal epithelium and enlarged hepatocytes, sometimes forming trabeculae, present

Note: two adenomas in section, 2 foci consisting of enlarged hepatocytes. Mass compresses surrounding hepatocytes

Note: eosinophilic focus on slide 23

Note: focal area of hepatic necrosis with a minimal inflammatory infiltrate

[ Hepatocellular Adenoma TGLs = 3-6 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 388

TRT#: 8

SEX: Female

DAY ON TEST: 677

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105388

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hepatocellular Carcinoma TGLs = 2-22, 5-24 ]

[ Hepatocholangiocarcinoma TGLs = 1-21, 6-25 ]

\* Lung

Infiltration Cellular

Histiocyte, Minimal

[ Infiltration Cellular TGLs = 7-2 ]

\* Mammary Gland

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH - Liver Hepatocellular Carcinoma

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 389

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105389

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Fatty Change TGLs = 1-6 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Focal, Mild
	[ Adenoma TGLs = 3-1 ]		
* Spleen		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 389

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105389

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Glandular

Mineralization

Minimal

\* Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Mild

Follicular Cel

Hyperplasia

Minimal

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 390

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105390

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
Note: scattered macrovesicular and rare microvesicular vacuolization, background periportal vacuolization also			
* Lung		Inflammation	Chronic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 391

TRT#: 8

SEX: Female

DAY ON TEST: 553

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105391

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Vacuolization Cytoplasmic	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Eye	Retina	Atrophy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Mild
		Note: microvesicular and macrovesicular	
		Note: acute inflammation in sites of coagulative hepatocellular necrosis	
		Note: centrilobular coagulative necrosis of hepatocytes with a neutrophilic infiltrate in the sites of necrosis, basophilic acicular material suggestive of urates	
		[ Necrosis TGLs = 3-6 ]	
* Lung		Infiltration Cellular	Histiocyte, Minimal
		[ Infiltration Cellular TGLs = 5-2 ]	
* Spleen		Hematopoietic Cell Proliferation	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 391

TRT#: 8

SEX: Female

DAY ON TEST: 553

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105391

ORGAN AND ACCOUNTABLE SITE STATUS

\* Thyroid Gland

Follicular Cel  
C Cell

Adenoma  
Hyperplasia

Minimal

Note: adenoma is a well demarcated focus consisting of numerous small follicles lined by basophilic cuboidal epithelial cells

\* Uterus

Polyp Stromal

Note: ulcerated, inflamed surface with bacteria, uterus and cervix involved

[ Polyp Stromal TGLs = 4-21 ]

PRIMARY CAUSE OF DEATH

- Liver Hepatocyte Necrosis

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 392

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105392

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Marked
* Lung		Adenocarcinoma	Metastatic (Uterus)
		Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Acute, Minimal
		Note: multiple foci consisting of variably sized acini lined by neoplastic epithelial cells, karyorrhectic neutrophils within the lumen of the neoplastic acini [ Adenocarcinoma TGLs = 4,5-22+23 ]	
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Minimal
		[ Pigmentation TGLs = 3-24 ]	
* Mammary Gland	Duct	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 392

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105392

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland [ Adenoma TGLs = 6-1 ]	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thymus		Atrophy	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Mild
	Follicle	Hypertrophy	Moderate
* Uterus [ Adenocarcinoma TGLs = 1-21 ]		Adenocarcinoma	

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 393

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105393

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Pancreas                  | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

MISSING

- |                     |        |
|---------------------|--------|
| * Parathyroid Gland | Vagina |
|---------------------|--------|

OBSERVATIONS

- |                   |                                    |                                  |                     |
|-------------------|------------------------------------|----------------------------------|---------------------|
| * Adrenal Cortex  |                                    | Angiectasis                      | Minimal             |
|                   |                                    | Hyperplasia                      | Focal, Minimal      |
| * Liver           |                                    | Basophilic Focus                 |                     |
|                   |                                    | Clear Cell Focus                 | Multiple            |
|                   |                                    | Eosinophilic Focus               |                     |
|                   |                                    | Fatty Change                     | Minimal             |
|                   | Bile Duct                          | Hyperplasia                      | Minimal             |
|                   | Hepatocyte                         | Hypertrophy                      | Marked              |
|                   | [ Eosinophilic Focus TGLs = 4-23 ] |                                  |                     |
| * Lung            |                                    | Infiltration Cellular            | Histiocyte, Minimal |
| * Mammary Gland   |                                    | Fibroadenoma                     | Multiple            |
|                   | [ Fibroadenoma TGLs = 1-21, 2-22 ] |                                  |                     |
| * Ovary           |                                    | Cyst                             | Mild                |
|                   | Note: bursal cyst                  |                                  |                     |
|                   | [ Cyst TGLs = 3-7 ]                |                                  |                     |
| * Pituitary Gland | Pars Distalis                      | Adenoma                          |                     |
|                   | [ Adenoma TGLs = 5-1 ]             |                                  |                     |
| * Spleen          |                                    | Hematopoietic Cell Proliferation | Minimal             |
|                   |                                    | Pigmentation                     | Minimal             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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**ANIMAL ID:** 393

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105393

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Mild

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 394

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105394

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

Tissue NOS

OBSERVATIONS

* Liver	Hepatocyte	Hypertrophy	Moderate
Lymph Node	Popliteal	Pigmentation	Minimal
Note: dark brown granular material present within macrophages and extracellular			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 395

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105395

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Parathyroid Gland                      Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
[ Compression    TGLs = 5-1 ]			
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hyperplasia	Nodular, Mild
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mandibular		Adenocarcinoma	Metastatic (Salivary Glands)
[ Adenocarcinoma    TGLs = 3-8 ]			
* Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Mild
[ Fibroadenoma    TGLs = 1-21, 2-22 ]			
[ Hyperplasia    TGLs = 4-8-1 ]			
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 395

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105395

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ORGAN AND ACCOUNTABLE SITE STATUS

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[ Adenoma TGLs = 6-1 ]			
* Salivary Glands	Parotid GI	Adenocarcinoma	
[ Adenocarcinoma TGLs = 7-23 ]			
* Spleen		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 396

TRT#: 8

SEX: Female

DAY ON TEST: 619

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105396

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Esophagus                |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   |
| * Nose                    | * Ovary                     | * Pancreas               | * Parathyroid Gland        |
| * Skin                    | * Stomach, Glandular        | * Thymus                 | * Trachea                  |
| * Urinary Bladder         | * Uterus                    |                          |                            |

MISSING

Vagina

OBSERVATIONS

- |                   |                                   |                           |                |
|-------------------|-----------------------------------|---------------------------|----------------|
| * Adrenal Cortex  |                                   | Angiectasis               | Mild           |
| * Brain           |                                   | Compression               | Moderate       |
|                   | [ Compression TGLs = 5-1 ]        |                           |                |
| * Clitoral Gland  | Duct                              | Cyst                      | Moderate       |
| * Eye             | Retina                            | Atrophy                   | Mild           |
| * Kidney          |                                   | Hydronephrosis            | Moderate       |
|                   | [ Hydronephrosis TGLs = 3-5 ]     | Nephropathy               | Minimal        |
| * Liver           |                                   | Basophilic Focus          |                |
|                   |                                   | Eosinophilic Focus        |                |
|                   |                                   | Fatty Change              | Moderate       |
|                   |                                   | Hepatocholangioma         |                |
|                   | Hepatocyte                        | Hypertrophy               | Marked         |
|                   | [ Hepatocholangioma TGLs = 1-21 ] |                           |                |
| * Mammary Gland   |                                   | Hyperplasia               | Minimal        |
| * Pituitary Gland | Pars Distalis                     | Adenoma                   |                |
|                   | [ Adenoma TGLs = 6-1 ]            |                           |                |
| * Salivary Glands | Parotid GI                        | Atrophy                   | Mild           |
|                   | Duct, Parotid GI                  | Inflammation              | Acute, Minimal |
|                   | Parotid GI                        | Vacuolization Cytoplasmic | Minimal        |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 396

TRT#: 8

SEX: Female

DAY ON TEST: 619

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105396

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: hyaline droplets in ducts of parotid salivary gland

\* Spleen

\* Stomach, Forestomach

Epithelium

Pigmentation

Hyperkeratosis

Hyperplasia

Inflammation

Ulcer

Mild

Moderate

Mild

Chronic, Minimal

Minimal

[ Ulcer TGLs = 8-23 ]

\* Thyroid Gland

Follicle

Hypertrophy

Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 397

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105397

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Ovary                   |
| * Pancreas                  | * Parathyroid Gland      | * Salivary Glands          | * Skin                    |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

MISSING

Vagina

OBSERVATIONS

- |                                                                                                                                                                       |               |                                  |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                      |               | Angiectasis                      | Minimal             |
| * Kidney                                                                                                                                                              |               | Nephropathy                      | Minimal             |
| * Liver                                                                                                                                                               |               | Basophilic Focus                 | Multiple            |
|                                                                                                                                                                       |               | Clear Cell Focus                 | Multiple            |
|                                                                                                                                                                       |               | Fatty Change                     | Minimal             |
|                                                                                                                                                                       | Hepatocyte    | Hypertrophy                      | Marked              |
| Note: resembles a basophilic focus but compressed hepatic parenchyma on one side<br>[ Hypertrophy TGLs = 2-6 ]                                                        |               |                                  |                     |
| * Lung                                                                                                                                                                |               | Infiltration Cellular            | Histiocyte, Minimal |
| * Mammary Gland                                                                                                                                                       |               | Hyperplasia                      | Mild                |
| [ Hyperplasia TGLs = 1-8-1 ]                                                                                                                                          |               |                                  |                     |
| * Pituitary Gland                                                                                                                                                     | Pars Distalis | Adenoma                          | Multiple            |
|                                                                                                                                                                       | Pars Intermed | Adenoma                          |                     |
|                                                                                                                                                                       | Pars Distalis | Hyperplasia                      | Focal, Minimal      |
| Note: multiple foci of the adenoma in the pars distalis<br>Note: mass compressing pars nervosa may be adenoma of pars distalis rather than adenoma of pars intermedia |               |                                  |                     |
| * Spleen                                                                                                                                                              |               | Hematopoietic Cell Proliferation | Minimal             |
|                                                                                                                                                                       |               | Pigmentation                     | Minimal             |
| * Thyroid Gland                                                                                                                                                       | C Cell        | Hyperplasia                      | Mild                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 397

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105397

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Follicle  
Endometrium

Hypertrophy  
Hyperplasia

Minimal  
Cystic, Minimal

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 398

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105398

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Bone Marrow             | * Brain                     |
| * Clitoral Gland         | * Esophagus                | * Eye                     | * Harderian Gland           |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Nose                     | * Pancreas                | * Parathyroid Gland         |
| * Pituitary Gland        | * Salivary Glands          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                 |                            |                           |                             |

**MISSING**

Vagina

**OBSERVATIONS**

- |                  |                                                                      |                          |                     |
|------------------|----------------------------------------------------------------------|--------------------------|---------------------|
| * Adrenal Cortex |                                                                      | Angiectasis              | Minimal             |
|                  |                                                                      | Hyperplasia              | Focal, Minimal      |
|                  |                                                                      | Hypertrophy              | Focal, Minimal      |
| * Heart          |                                                                      | Cardiomyopathy           | Minimal             |
| * Kidney         | Pelvis                                                               | Mineralization           | Minimal             |
| * Liver          |                                                                      | Cholangiocarcinoma       |                     |
|                  |                                                                      | Clear Cell Focus         | Multiple            |
|                  |                                                                      | Fatty Change             | Minimal             |
|                  |                                                                      | Hepatocellular Adenoma   | Multiple            |
|                  |                                                                      | Hepatocellular Carcinoma |                     |
|                  |                                                                      | Hepatocholangioma        |                     |
|                  | Hepatocyte                                                           | Hypertrophy              | Marked              |
|                  | Note: trabecular pattern for some adenomas, adenomas also on slide 6 |                          |                     |
|                  | Note: carcinoma also present on slide 6                              |                          |                     |
|                  | [ Cholangiocarcinoma TGLs = 2-22, 3-23, 4-24 ]                       |                          |                     |
|                  | [ Hepatocellular Adenoma TGLs = 1-21, 5-25, 7-27, 9-29 ]             |                          |                     |
|                  | [ Hepatocellular Carcinoma TGLs = 6-26 ]                             |                          |                     |
| * Lung           |                                                                      | Infiltration Cellular    | Histiocyte, Minimal |
|                  | [ Infiltration Cellular TGLs = 10-30 ]                               |                          |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 398

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105398

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Mammary Gland		Hyperplasia	Minimal
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLs = 8-28 ]			
* Ovary		Cystadenoma	
		Hyperplasia	Tubulostromal, Moderate
* Spleen		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 399

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105399

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Mild
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Mild
		Hepatocellular Adenoma	
		Hyperplasia	Nodular, Mild
	Hepatocyte	Hypertrophy	Marked
Note: TGL 6 - nodular mass of greatly enlarged hepatocytes, sometimes forming trabeculae 2 to 3 cell layers thick, cystic spaces with eosinophilic material present			
	[ Hepatocellular Adenoma TGLs = 6-21 ]		
	[ Hyperplasia TGLs = 4,5-6 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 8-8-1 ]		
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Intermed	Hyperplasia	Focal, Mild
	Pars Nervosa	Inflammation	Chronic, Mild
Note: hypercellular focus suggestive of gliosis			
* Skin	Epidermis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 399

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105399

**ORGAN AND ACCOUNTABLE SITE STATUS**

Inflammation

Chronic Active, Mild

Ulcer

Mild

[ Hyperplasia TGLs = 3-24 ]

[ Inflammation TGLs = 3-24 ]

[ Ulcer TGLs = 3-24 ]

\* Spleen

Angiectasis

Mild

Hematopoietic Cell Proliferation

Mild

Note: cyst present on capsular surface of spleen, cyst not an option so angiectasis selected as best fit

[ Angiectasis TGLs = 2-22 ]

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Follicle

Hypertrophy

Mild

Tissue NOS

Fibrosis

Minimal

Note: adhesion between skeletal muscle and adipose tissue

[ Fibrosis TGLs = 7-23 ]

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 400

TRT#: 8

SEX: Female

DAY ON TEST: 702

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105400

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Clitoral Gland	* Esophagus	* Harderian Gland
* Intestine Large, Colon	* Intestine Large, Rectum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

* Adrenal Cortex	* Adrenal Medulla	* Heart	* Kidney
* Liver	* Lymph Node, Mesenteric	* Ovary	* Spleen
* Thymus			

**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Thyroid Gland		

**OBSERVATIONS**

* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Brain		Compression	Mild
	[ Compression TGLs = 3-1-1 ]		
* Mammary Gland		Carcinoma	
	Duct	Dilatation	Mild
		Hyperplasia	Mild

Note: carcinoma is lobulated and consists of sheets and small acini of a relatively uniform population of cuboidal epithelial cells with round nuclei, mitoses rare

Note: carcinoma has scattered foci of necrosis, squamous metaplasia, mast cells, neoplasm sometimes has a papillary pattern

[ Carcinoma TGLs = 2-21 ]

[ Hyperplasia TGLs = 6-22 ]

* Nose		Inflammation	Acute, Moderate
		Note: moderate numbers of neutrophils in lateral passage lined by stratified squamous epithelium (inflammation lateral to turbinates)	

* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 4-1 ]		

* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 400

TRT#: 8

SEX: Female

DAY ON TEST: 702

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105400

**ORGAN AND ACCOUNTABLE SITE STATUS**

Inflammation

Chronic, Mild

Ulcer

Minimal

\* Uterus

Note: one horn present

Vagina

Note: fibroplasia and hemosiderin-laden macrophages adjacent to the neoplasm

Note: round to polygonal cells with finely granular, abundant basophilic cytoplasm within a collagenous stroma on the serosal surface of the vagina

[ Granular Cell Tumor Benign TGLs = 1,7-23+24 ]

Granular Cell Tumor Benign

Multiple

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 401

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105401

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Kidney                    | * Lung                   | * Lymph Node, Mandibular   | * Lymph Node, Mesenteric  |
| * Nose                      | * Pancreas               | * Parathyroid Gland        | * Pituitary Gland         |
| * Skin                      | * Spleen                 | * Stomach, Forestomach     | * Thymus                  |
| * Trachea                   | * Urinary Bladder        | * Uterus                   |                           |

MISSING

Vagina

OBSERVATIONS

- |                                  |                |                    |                  |
|----------------------------------|----------------|--------------------|------------------|
| * Adrenal Cortex                 |                | Angiectasis        | Minimal          |
|                                  |                | Hyperplasia        | Focal, Minimal   |
| * Liver                          |                | Basophilic Focus   | Multiple         |
|                                  |                | Clear Cell Focus   | Multiple         |
|                                  | Bile Duct      | Cyst               | Multiple, Mild   |
|                                  |                | Eosinophilic Focus | Multiple         |
|                                  |                | Fatty Change       | Minimal          |
|                                  |                | Hepatocholangioma  | Multiple         |
|                                  | Bile Duct      | Hyperplasia        | Mild             |
|                                  | Hepatocyte     | Hypertrophy        | Marked           |
| Note: multilocular biliary cysts |                |                    |                  |
| [ Clear Cell Focus TGLs = 1-21 ] |                |                    |                  |
| [ Fatty Change TGLs = 1-21 ]     |                |                    |                  |
| * Mammary Gland                  |                | Hyperplasia        | Mild             |
| * Ovary                          | Follicle       | Cyst               | Mild             |
|                                  | Granulosa Cell | Hyperplasia        | Multifocal, Mild |
| * Salivary Glands                | Parotid GI     | Basophilic Focus   | Minimal          |
| * Stomach, Glandular             |                | Mineralization     | Minimal          |
| * Thyroid Gland                  | C Cell         | Hyperplasia        | Minimal          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 401

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105401

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Follicle

Hypertrophy

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 402

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105402

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Hepatocellular Adenoma	Multiple
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	Note: trabecular pattern, some cords two cells thick		
	[ Eosinophilic Focus TGLs = 2-22 ]		
	[ Hepatocellular Carcinoma TGLs = 1-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 3-23 ]		
* Ovary	Follicle	Cyst	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

**ANIMAL ID:** 402

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105402

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Mild

\* Uterus

Endometrium

Hyperplasia

Cystic, Marked

---

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 403

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 645

**DOSE:** 50 MG/KG

**DISP:** Natural Death

**HISTO:** 110520105403

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Esophagus
* Harderian Gland	* Heart	* Lung	* Lymph Node, Mandibular
* Mammary Gland	* Parathyroid Gland	* Skin	

**MISSING**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Spleen	* Urinary Bladder	* Uterus
Vagina			

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Bone Marrow	* Clitoral Gland	* Eye
* Intestine Large, Rectum	* Kidney	* Liver	* Nose
* Pituitary Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	

**OBSERVATIONS**

\* Liver

Note: autolysis precluded diagnosis, but potentially an adenoma present on slide 21

**PRIMARY CAUSE OF DEATH**

- UNCERTAIN

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 404

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105404

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Mild
* Kidney		Casts Protein	Minimal
* Liver		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
	Hepatocyte	Hepatocellular Adenoma	
	[ Eosinophilic Focus TGLs = 2-6 ]	Hypertrophy	Marked
* Thymus		Cyst	Moderate
		Thymoma Benign	
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Cervix	Hyperplasia	Squamous, Minimal
		Polyp Stromal	
	Cervix	Polyp Stromal	
	[ Polyp Stromal TGLs = 1-7 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 405

TRT#: 8

SEX: Female

DAY ON TEST: 3

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105405

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Urinary Bladder	* Uterus	

MISSING

\* Intestine Large, Rectum                      Vagina

AUTO PRECLUDES DIAG.

\* Intestine Large, Cecum                      \* Intestine Small, Duodenum                      \* Trachea

OBSERVATIONS

* Kidney		Hydronephrosis	Mild
	[ Hydronephrosis    TGLs = 1-5 ]		
* Liver		Fatty Change	Minimal
Lymph Node	Popliteal	Hemorrhage	Minimal
	Popliteal	Pigmentation	Minimal
	Note: dark brown to black granular pigment		
	[ Hemorrhage    TGLs = 3-21 ]		
	[ Pigmentation    TGLs = 3-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Moderate

PRIMARY CAUSE OF DEATH                      - UNCERTAIN

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 406

TRT#: 8

SEX: Female

DAY ON TEST: 630

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105406

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Vacuolization Cytoplasmic	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Brain		Compression	Moderate
	[ Compression TGLs = 6-1 ]		
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Hepatocyte	Hypertrophy	Marked
	Note: relatively well demarcated neoplasm with a loss of hepatic architecture, compression of adjacent parenchyma, enlarged hepatocytes arranged in cords		
	Note: scattered hepatocytes with microvesicular vacuolization within the adenoma, also, nodules hypertrophic hepatocytes protruding from capsular surface		
	[ Hepatocellular Adenoma TGLs = 3-6 ]		
* Mammary Gland		Fibroadenoma	
	Duct	Inflammation	Acute, Minimal
	[ Fibroadenoma TGLs = 2-8-1 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1-1 ]		
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Spleen		Pigmentation	Moderate

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 406

TRT#: 8

SEX: Female

DAY ON TEST: 630

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105406

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Mild

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 407

TRT#: 8

SEX: Female

DAY ON TEST: 537

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105407

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Pancreas
- \* Stomach, Forestomach
- \* Urinary Bladder
- \* Bone
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Stomach, Glandular
- \* Uterus
- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Nose
- \* Salivary Glands
- \* Thymus
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Ovary
- \* Skin
- \* Trachea

MISSING

Vagina

OBSERVATIONS

- \* Adrenal Cortex
- \* Brain
  - [ Compression TGLs = 4-1 ]
- \* Liver
  - [ Congestion TGLs = 8-23 ]
- \* Lung
  - [ Infiltration Cellular TGLs = 6-21, 7-22 ]
- Lymph Node
  - [ Pigmentation TGLs = 2-7 ]
- \* Mammary Gland
- \* Pituitary Gland
  - [ Adenoma TGLs = 5-1 ]
- \* Spleen
- Angiectasis
- Compression
- Basophilic Focus
- Clear Cell Focus
- Congestion
- Eosinophilic Focus
- Fatty Change
- Oval Cell
- Hepatocyte
- Hyperplasia
- Hypertrophy
- Infiltration Cellular
- Pigmentation
- Fibroadenoma
- Adenoma
- Pigmentation
- Minimal
- Marked
- Multiple
- Multiple
- Minimal
- Mild
- Minimal
- Marked
- Histiocyte, Minimal
- Hemosiderin, Mild
- Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 407

TRT#: 8

SEX: Female

DAY ON TEST: 537

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105407

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicle

Hypertrophy

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 408

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105408

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Mammary Gland            |
| * Nose                    | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland          |
| * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Trachea                 | * Urinary Bladder           |                          |                            |

MISSING

Vagina

OBSERVATIONS

- |          |                    |                   |
|----------|--------------------|-------------------|
| * Kidney | Nephropathy        | Minimal           |
| * Liver  | Basophilic Focus   | Multiple          |
|          | Cholangiocarcinoma | Multiple          |
|          | Clear Cell Focus   | Multiple          |
|          | Bile Duct          |                   |
|          | Cyst               |                   |
|          | Fatty Change       | Minimal           |
|          | Hepatocholangioma  | Multiple          |
|          | Hyperplasia        | Nodular, Moderate |
|          | Hepatocyte         |                   |
|          | Hypertrophy        | Marked            |

Note: cholangiocarcinoma consists of enlarged cuboidal to columnar basophilic epithelial cells with greatly enlarged vesicular nuclei forming ducts

Note: cholangiocarcinoma also has pale basophilic cells forming clusters without discernible lumens, mild fibrous connective tissue stroma

Note: multilocular cystic bile ducts present on slides 6 and 21

Note: cholangiocarcinoma or cholangiofibrosis present on slides 6 and 21, hepatocellular adenoma present on slides 6 and 22

Note: karyorrhectic neutrophils within lumen of some neoplastic bile ducts, multiple foci of neoplasm, 1-2 mitoses per 400x field

[ Cholangiocarcinoma TGLs = 6-21 ]

[ Hepatocholangioma TGLs = 6-21 ]

[ Hyperplasia TGLs = 5,7,8-6+22 ]

[ Hypertrophy TGLs = 4-6 ]

- |        |                       |                  |
|--------|-----------------------|------------------|
| * Lung | Infiltration Cellular | Histiocyte, Mild |
|--------|-----------------------|------------------|

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 408

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105408

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Infiltration Cellular TGLs = 9-2 ]

* Ovary	Follicle	Cyst	Multiple, Mild
* Salivary Glands	Submandibul GI	Ectopic Tissue	Minimal
Note: ectopic sublingual salivary gland in submandibular salivary gland			
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Marked

[ Hyperplasia TGLs = 1-7, 2-7, 3-7 ]

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 409

TRT#: 8

SEX: Female

DAY ON TEST: 597

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105409

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

MISSING

Vagina

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Ileum	* Thyroid Gland
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OBSERVATIONS

* Adrenal Cortex	Angiectasis	Minimal
	Hyperplasia	Focal, Minimal
* Bone Marrow	Fibrosis	Minimal
* Brain	Compression	Minimal
[ Compression TGLs = 3-1 ]		
* Kidney	Nephropathy	Minimal
* Liver	Basophilic Focus	Multiple
	Eosinophilic Focus	Multiple
	Fatty Change	Mild
	Hepatocyte Hypertrophy	Marked
Note: eosinophilic foci also present on slide 6		
[ Eosinophilic Focus TGLs = 4-23 ]		
* Lung	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLs = 7-24 ]		
* Mammary Gland	Carcinoma	
	Hyperplasia	Mild
[ Carcinoma TGLs = 1-21 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 409

TRT#: 8

SEX: Female

DAY ON TEST: 597

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105409

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mesentery [ Necrosis TGLs = 6-22 ]	Fat	Necrosis	Minimal
* Pituitary Gland [ Adenoma TGLs = 2-1 ]	Pars Distalis	Adenoma	
* Spleen		Pigmentation	Mild
* Thymus		Atrophy	Moderate
		Hemorrhage	Marked

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 410

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105410

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Minimal
	[ Infiltration Cellular TGLs = 2-21 ]		
	[ Inflammation TGLs = 2-21 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 1-8-1 ]		
* Ovary	Follicle	Cyst	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 3-1 ]		
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 410

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105410

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Endometrium

Hyperplasia

Cystic, Minimal

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 411

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105411

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
* Lung		Inflammation	Chronic, Minimal

Note: subpleural lymphocytic focus

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 412

TRT#: 8

SEX: Female

DAY ON TEST: 396

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105412

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
* Brain		Compression	Moderate
	[ Compression TGLs = 5-1 ]		
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 3-5 ]		
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 4-2 ]		
Lymph Node	Popliteal	Hyperplasia	Lymphoid, Minimal
	Popliteal	Pigmentation	Minimal
	Note: black granular pigment		
	[ Hyperplasia TGLs = 8-23 ]		
	[ Pigmentation TGLs = 8-23 ]		
* Mammary Gland		Galactocele	Minimal
		Inflammation	Chronic Active, Mild
	Note: encapsulated focus consisting of centrally located neutrophils and hemorrhage, rimmed by vacuolated macrophages and hemosiderin-laden macrophages		
	Note: area of inflammation may have previously corresponded to a galactocele		
	[ Galactocele TGLs = 1-21 ]		
	[ Inflammation TGLs = 2-22 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 412

TRT#: 8

SEX: Female

DAY ON TEST: 396

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105412

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 6-1 ]			
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
		Mineralization	Mild
		Ulcer	Mild
[ Hyperkeratosis TGLs = 10-4-1 ]			
[ Hyperplasia TGLs = 10-4-1 ]			
[ Inflammation TGLs = 10-4-1 ]			
[ Mineralization TGLs = 10-4-1 ]			
[ Ulcer TGLs = 10-4-1 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Mild
		Metaplasia	Squamous, Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 413

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105413

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
	Note: scattered macrovesicular and rare microvesicular vacuolization, background periportal vacuoles also present		
* Lung		Metaplasia	Osseous, Minimal

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 414

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105414

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate

Note: scattered macrovesicular and rare microvesicular vacuolization, background periportal vacuolization also

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 415

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105415

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis Hyperplasia	Minimal Focal, Minimal
			Note: wedge-shaped focus of basophilic cells extending from zona glomerulosa into zona fasciculata
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus Clear Cell Focus Eosinophilic Focus	Multiple Multiple
	Hepatocyte	Hypertrophy	Moderate
* Lung		Infiltration Cellular	Histiocyte, Minimal
Mesentery	Fat	Necrosis	Mild
			[ Necrosis TGLs = 1-21 ]
* Ovary	Follicle	Cyst	Mild
			[ Cyst TGLs = 3-7 ]
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Mild
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
			[ Hyperplasia TGLs = 2-7 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 416

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105416

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Cholangiofibrosis	Mild
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocholangioma	Multiple
	Bile Duct	Hyperplasia	Minimal
		Hyperplasia	Nodular, Mild
	Hepatocyte	Hypertrophy	Marked
	Bile Duct	Inflammation	Chronic Active, Minimal

Note: greatly enlarged hepatocytes, microvesicular vacuolization of some hepatocytes within adenoma

Note: multilobular biliary cysts

Note: peribiliary fibrosis and neutrophils within the lumen of bile ducts

Note: multiple adenomas compressing adjacent parenchyma, one adenoma had a multilocular biliary cyst present

[ Clear Cell Focus TGLs = 2-6 ]

[ Eosinophilic Focus TGLs = 2-6 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 416

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105416

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hepatocholangioma TGLs = 1-21 ]			
[ Hyperplasia TGLs = 2-6 ]			
* Mammary Gland		Galactocele	Mild
		Hyperplasia	Minimal
[ Galactocele TGLs = 5-22, 6-23, 8-24 ]			
[ Hyperplasia TGLs = 7-8-1 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Urinary Bladder		Inflammation	Chronic, Minimal
* Uterus		Metaplasia	Squamous, Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 417

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105417

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Clitoral Gland		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLs = 1-8 ]		
* Eye	Retina	Atrophy	Minimal
* Kidney		Hydronephrosis	Moderate
	[ Hydronephrosis TGLs = 2-5 ]	Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
* Ovary		Cyst	Mild
	Note: bursal cyst		
	[ Cyst TGLs = 3-7 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLs = 5-1 ]		
* Skin		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 6-22 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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ANIMAL ID: 417

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105417

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Pigmentation	Mild
* Thyroid Gland	Follicular Cel	Hyperplasia	Mild
	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Moderate
		Metaplasia	Squamous, Minimal

[ Hyperplasia TGLs = 4-21 ]

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 418

TRT#: 8

SEX: Female

DAY ON TEST: 385

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105418

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Moderate
* Liver		Eosinophilic Focus	Multiple
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Mild
Note: multifocal coagulative necrosis with a neutrophilic infiltrate in the sites of necrosis			
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 8-2 ]		
Lymph Node	Iliac	Hyperplasia	Lymphoid, Mild
	[ Hyperplasia TGLs = 6-21 ]		
* Lymph Node, Mandibular		Hyperplasia	Lymphoid, Minimal
	[ Hyperplasia TGLs = 4-8 ]		
* Ovary		Cyst	Mild
Note: bursal cyst			
	[ Cyst TGLs = 1-7 ]		
* Salivary Glands	Parotid GI	Necrosis	Minimal
Note: minimal apoptotic necrosis			
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Histiocytic Sarcoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

---

ANIMAL ID: 418

TRT#: 8

SEX: Female

DAY ON TEST: 385

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105418

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: mass in body and mass in right horn correspond to a histiocytic sarcoma

Note: fusiform cells in interlacing bundles admixed with round cells and multinucleate giant cells in endometrium, myometrium and serosa

Note: necrosis in endometrial neoplasm, neoplasm also on slide 7-1

[ Histiocytic Sarcoma TGLs = 2-22, 3-23 ]

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PRIMARY CAUSE OF DEATH

- Uterus Histiocytic Sarcoma

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Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 419

TRT#: 8

SEX: Female

DAY ON TEST: 686

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105419

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Brain		Compression	Minimal
	[ Compression TGLs = 4-1 ]		
* Int Lg Colon			
	Note: chronic inflammation in mesentery attached to colon		
* Kidney		Hydronephrosis	Minimal
	[ Hydronephrosis TGLs = 7-5 ]		
* Liver		Basophilic Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Mild
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Minimal
	Note: minimal acute inflammtion in site of necrosis		
	[ Necrosis TGLs = 1-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLs = 2-8-1 ]		
* Pancreas			
	Note: chronic inflammation in mesentery attached to pancreas		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 419

TRT#: 8

SEX: Female

DAY ON TEST: 686

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105419

ORGAN AND ACCOUNTABLE SITE STATUS

* Pituitary Gland [ Adenoma TGLs = 5-1 ]	Pars Distalis	Adenoma	
* Salivary Glands	Parotid GI	Atrophy	Mild
* Spleen	Lymph Follic	Atrophy	Minimal
		Pigmentation	Mild
* Stomach, Glandular [ Ulcer TGLs = 8-4-1 ]		Ulcer	Minimal
* Thymus		Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Mild
* Uterus [ Schwannoma Malignant TGLs = 6-21 ]		Schwannoma Malignant	

PRIMARY CAUSE OF DEATH - Uterus Schwannoma Malignant

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 420

TRT#: 8

SEX: Female

DAY ON TEST: 617

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105420

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Medulla          | * Bone                    | * Clitoral Gland            | * Esophagus              |
| * Eye                      | * Harderian Gland         | * Heart                     | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lymph Node, Mandibular |
| * Mammary Gland            | * Ovary                   | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Trachea                |
| * Urinary Bladder          | * Uterus                  |                             |                          |

**MISSING**

Vagina

**AUTO PRECLUDES DIAG.**

- |               |        |
|---------------|--------|
| * Bone Marrow | * Nose |
|---------------|--------|

**OBSERVATIONS**

- |                                                                                                                                                                       |                                        |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|
| * Adrenal Cortex                                                                                                                                                      | Angiectasis                            | Minimal             |
| * Brain                                                                                                                                                               | Compression                            | Moderate            |
| [ Compression TGLs = 7-1 ]                                                                                                                                            |                                        |                     |
| * Liver                                                                                                                                                               | Basophilic Focus                       | Multiple            |
|                                                                                                                                                                       | Cholangiofibrosis                      | Mild                |
|                                                                                                                                                                       | Bile Duct                              | Cyst                |
|                                                                                                                                                                       |                                        | Minimal             |
|                                                                                                                                                                       | Eosinophilic Focus                     |                     |
|                                                                                                                                                                       | Fatty Change                           | Minimal             |
|                                                                                                                                                                       | Bile Duct                              | Hyperplasia         |
|                                                                                                                                                                       | Oval Cell                              | Moderate            |
|                                                                                                                                                                       | Hepatocyte                             | Hyperplasia         |
|                                                                                                                                                                       |                                        | Mild                |
|                                                                                                                                                                       |                                        | Hypertrophy         |
|                                                                                                                                                                       |                                        | Marked              |
| Note: cholangiofibrosis- hyperplastic bile ducts lined by cuboidal epithelium encircled by fibrous connective tissue, collagen prominent , neutrophils in lumen ducts |                                        |                     |
|                                                                                                                                                                       | [ Cholangiofibrosis TGLs = 2,3-21+22 ] |                     |
|                                                                                                                                                                       | [ Hyperplasia TGLs = 2-21, 3-22 ]      |                     |
| * Lung                                                                                                                                                                | Infiltration Cellular                  | Histiocyte, Minimal |
| [ Infiltration Cellular TGLs = 9-2 ]                                                                                                                                  |                                        |                     |
| * Lymph Node, Mesenteric                                                                                                                                              | Hemorrhage                             | Moderate            |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 420

TRT#: 8

SEX: Female

DAY ON TEST: 617

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105420

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hemorrhage TGLs = 5-5 ]

\* Pancreas

Atrophy

Minimal

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLs = 8-1 ]

\* Spleen

Pigmentation

Minimal

\* Thymus

Atrophy

Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Marked

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 421

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105421

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Mild
		Hypertrophy	Focal, Mild
* Kidney	Transit Epithe	Hyperplasia	Mild
	Pelvis	Mineralization	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
		Hepatocholangioma	
	Bile Duct	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Hepatocellular Adenoma TGLs = 1-21 ]		
	[ Hypertrophy TGLs = 4-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 2-8-1 ]		
* Ovary		Granulosa Cell Tumor Benign	
	Note: reactive hyperplasia/hypertrophy on surface of ovary		
* Pancreas		Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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**ANIMAL ID:** 421

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105421

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Pigmentation	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Moderate

---

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 422

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 11052O1O5422

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
Lymph Node	Popliteal	Pigmentation	Minimal
Note: dark brown granular pigment - intracellular and extracellular			
* Thyroid Gland	Follicle	Hypertrophy	Minimal



**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016  
**Time Report Requested:** 15:47:52  
**First Dose M/F:** 08/26/08 / 08/26/08  
**Lab:** SRI

**ANIMAL ID:** 424

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 92

**DOSE:** 50 MG/KG

**DISP:** Scheduled Sacrifice

**HISTO:** 110520105424

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

**OBSERVATIONS**

* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
Note: scattered macrovesicular and rare microvesicular vacuolization, background periportal vacuoles also present			
* Pancreas			
Note: chronic inflammation (mononuclear cells, neutrophils and hypertrophic mesothelial cells) in attached mesentery			
* Thyroid Gland	Follicle	Hypertrophy	Minimal

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 425

TRT#: 8

SEX: Female

DAY ON TEST: 687

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105425

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

\* Salivary Glands                      Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
* Brain		Compression	Minimal
[ Compression    TGLs = 5-1 ]			
* Eye	Retina	Atrophy	Mild
* Kidney	Pelvis	Mineralization	Minimal
* Liver		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Marked
[ Hypertrophy    TGLs = 1-6, 2-6 ]			
* Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Mild
[ Fibroadenoma    TGLs = 3-8-1, 4-21, 7-22, 8-23 ]			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis        TGLs = 9-24 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma        TGLs = 6-1 ]			
* Spleen		Pigmentation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03

**Test Type:** CHRONIC

**Route:** GAVAGE

**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

**CAS Number:** 32534-81-9

**Date Report Requested:** 07/28/2016

**Time Report Requested:** 15:47:52

**First Dose M/F:** 08/26/08 / 08/26/08

**Lab:** SRI

---

**ANIMAL ID:** 425

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 687

**DOSE:** 50 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:** 110520105425

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Follicle

Hypertrophy

Mild

---

**PRIMARY CAUSE OF DEATH**

- Mammary Gland Fibroadenoma

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Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 426

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105426

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Accessory Adrenal Cortical Nodule	Minimal
* Clitoral Gland		Inflammation	Chronic, Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate

Note: Hepatocyte hypertrophy most prominent in centrilobular and midzonal regions of hepatic lobule, with relative sparing of periportal hepatocytes

Note: Hypertrophic hepatocytes are enlarged with an increased amount of pale eosinophilic granular (ground glass) cytoplasm and enlarged nuclei

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 427

TRT#: 8

SEX: Female

DAY ON TEST: 627

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105427

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     | * Pancreas                |
| * Parathyroid Gland         | * Salivary Glands        | * Skin                     | * Stomach, Forestomach    |
| * Stomach, Glandular        | * Thymus                 | * Trachea                  | * Urinary Bladder         |
| * Uterus                    |                          |                            |                           |

**MISSING**

Vagina

**OBSERVATIONS**

- |                  |                                                   |                           |                      |
|------------------|---------------------------------------------------|---------------------------|----------------------|
| * Adrenal Cortex |                                                   | Angiectasis               | Minimal              |
|                  |                                                   | Vacuolization Cytoplasmic | Minimal              |
| * Kidney         | Pelvis                                            | Mineralization            | Minimal              |
| * Liver          |                                                   | Angiectasis               | Minimal              |
|                  |                                                   | Basophilic Focus          | Multiple             |
|                  |                                                   | Clear Cell Focus          | Multiple             |
|                  |                                                   | Eosinophilic Focus        |                      |
|                  |                                                   | Fatty Change              | Minimal              |
|                  | Hepatocyte                                        | Hypertrophy               | Moderate             |
|                  | [ Hypertrophy TGLs = 4-6 ]                        |                           |                      |
| * Lung           |                                                   | Infiltration Cellular     | Histiocyte, Minimal  |
|                  | [ Infiltration Cellular TGLs = 7-23, 8-24, 9-25 ] |                           |                      |
| Lymph Node       | Mediastinal                                       | Hemorrhage                | Minimal              |
|                  | Mediastinal                                       | Pigmentation              | Hemosiderin, Minimal |
|                  | [ Hemorrhage TGLs = 5-3 ]                         |                           |                      |
| * Mammary Gland  |                                                   | Fibroadenoma              |                      |
|                  | [ Fibroadenoma TGLs = 1-21 ]                      |                           |                      |
| Mesentery        | Fat                                               | Necrosis                  | Mild                 |
|                  | [ Necrosis TGLs = 3-22 ]                          |                           |                      |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 427

TRT#: 8

SEX: Female

DAY ON TEST: 627

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105427

ORGAN AND ACCOUNTABLE SITE STATUS

* Ovary		Cyst	Mild
Note: bursal cyst			
[ Cyst TGLs = 2-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicular Cel	Hyperplasia	Minimal
	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 428

TRT#: 8

SEX: Female

DAY ON TEST: 669

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105428

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	Oral Mucosa
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis Hyperplasia	Minimal Focal, Minimal
[ Angiectasis TGLs = 6-10 ]			
* Brain		Compression	Moderate
[ Compression TGLs = 8-1 ]			
* Kidney	Transit Epithe Pelvis	Hyperplasia Mineralization Pigmentation	Mild Minimal Minimal
* Liver		Eosinophilic Focus Fatty Change Hepatocellular Adenoma Hepatocyte Hypertrophy Hepatocyte Necrosis	Minimal Minimal Multiple Marked Minimal
Note: TGL 3 adenomas consist foci of hypertrophic, pale eosinophilic hepatocytes with scattered microvesicular vacuolization of hepatocytes			
[ Hepatocellular Adenoma TGLs = 3-6, 4-23 ]			
* Lung		Infiltration Cellular	Histiocyte, Minimal
Note: multinucleate giant cells and cholesterol clefts, as well as histiocytes			
[ Infiltration Cellular TGLs = 11-24, 12-25 ]			
Lymph Node	Mediastinal	Pigmentation	Hemosiderin, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 428

TRT#: 8

SEX: Female

DAY ON TEST: 669

DOSE: 50 MG/KG

DISP: Moribund Sacrifice

HISTO: 110520105428

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Pigmentation TGLs = 7-3 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLs = 1-21 ]			
* Ovary		Cyst	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 9-1-1 ]			
* Spleen		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
	Follicle	Hypertrophy	Minimal
* Uterus	Endometrium	Hyperplasia	Cystic, Marked
[ Hyperplasia TGLs = 10-7 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 429

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105429

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
	Note: Congo red amyloid stain was negative		
* Bone Marrow	Myeloid Cell	Hyperplasia	Mild
* Eye	Retina	Atrophy	Mild
* Liver		Angiectasis	Minimal
		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Mild
		Hyperplasia	Nodular, Moderate
	Hepatocyte	Hypertrophy	Marked
	[ Hyperplasia TGLs = 6, 7-6 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
	[ Infiltration Cellular TGLs = 8-2 ]		
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Minimal
	[ Fibroadenoma TGLs = 2-22 ]		
* Spleen		Hematopoietic Cell Proliferation	Moderate
	[ Hematopoietic Cell Proliferation TGLs = 5-6 ]		
* Thymus		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 429

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105429

ORGAN AND ACCOUNTABLE SITE STATUS

* Thyroid Gland	C Cell	Adenoma	Multiple
	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Mild
* Uterus		Decidual Reaction	Moderate
	Endometrium	Hyperplasia	Cystic, Mild
		Polyp Stromal	

Note: cells with decidual alteration had greatly enlarged, anisokaryotic vesicular nuclei with large single to multiple nucleoli

Note: polyp with decidual alteration present on slides 21 and 25 consists of of plump spindle-shaped cells and trabeculae of epithelial cells

Note: polypoid mass (decidual alteration) consists of large epithelial like decidual cells with abundant pale eosinophilic cytoplasm

[ Decidual Reaction TGLs = 1-21, 4-25 ]

[ Hyperplasia TGLs = 3-24 ]

[ Polyp Stromal TGLs = 3-24 ]

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 430

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105430

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Medulla           | * Bone                   | * Bone Marrow              | * Brain                   |
| * Clitoral Gland            | * Esophagus              | * Eye                      | * Harderian Gland         |
| * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Lung                      | * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Nose                    |
| * Parathyroid Gland         | * Salivary Glands        | * Skin                     | * Spleen                  |
| * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   | * Trachea                 |
| * Urinary Bladder           |                          |                            |                           |

**MISSING**

Vagina

**OBSERVATIONS**

- |                                                                                                                                                                  |                                                   |                        |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------|----------------|
| * Adrenal Cortex                                                                                                                                                 |                                                   | Angiectasis            | Mild           |
|                                                                                                                                                                  |                                                   | Hyperplasia            | Focal, Minimal |
|                                                                                                                                                                  |                                                   | Hypertrophy            | Focal, Minimal |
| * Kidney                                                                                                                                                         |                                                   | Casts Protein          | Minimal        |
| * Liver                                                                                                                                                          |                                                   | Basophilic Focus       | Multiple       |
|                                                                                                                                                                  |                                                   | Clear Cell Focus       | Multiple       |
|                                                                                                                                                                  |                                                   | Eosinophilic Focus     | Multiple       |
|                                                                                                                                                                  |                                                   | Fatty Change           | Minimal        |
|                                                                                                                                                                  |                                                   | Hepatocellular Adenoma | Multiple       |
|                                                                                                                                                                  |                                                   | Hepatocholangioma      |                |
|                                                                                                                                                                  | Bile Duct                                         | Hyperplasia            | Minimal        |
|                                                                                                                                                                  | Hepatocyte                                        | Hypertrophy            | Moderate       |
| Note: minimal compression of hepatocytes adjacent to the adenomas, adenomas consisted of greatly enlarged hepatocytes with glassy to finely vacuolated cytoplasm |                                                   |                        |                |
| Note: one adenoma had dilated bile ducts present within the neoplastic hepatocytes                                                                               |                                                   |                        |                |
|                                                                                                                                                                  | [ Hepatocellular Adenoma TGLs = 1-21, 2-22, 6-6 ] |                        |                |
|                                                                                                                                                                  | [ Hepatocholangioma TGLs = 2-22 ]                 |                        |                |
|                                                                                                                                                                  | [ Hypertrophy TGLs = 6-6 ]                        |                        |                |
| * Mammary Gland                                                                                                                                                  |                                                   | Hyperplasia            | Mild           |
|                                                                                                                                                                  | [ Hyperplasia TGLs = 4-8-1 ]                      |                        |                |

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 430

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105430

ORGAN AND ACCOUNTABLE SITE STATUS

* Ovary	Follicle	Cyst	Minimal
[ Cyst TGLs = 5-7 ]			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Uterus		Dilatation	Mild
		Polyp Stromal	
[ Dilatation TGLs = 3-7 ]			
[ Polyp Stromal TGLs = 7-7 ]			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 431

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105431

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Minimal
		Hypertrophy	Focal, Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	[ Hepatocellular Adenoma TGLs = 1-21 ]		
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Minimal
	[ Hyperplasia TGLs = 3-1 ]		
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

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**ANIMAL ID:** 431

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 50 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:** 110520105431

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thymus

Atrophy

Mild

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

Follicle

Hypertrophy

Mild

---

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 432

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105432

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Angiectasis	Minimal
		Hyperplasia	Focal, Mild
		Vacuolization Cytoplasmic	Minimal
		Note: focus containing a pale pink homogeneous material, suggestive of amyloid - material was Congo red negative	
* Clitoral Gland	Duct	Cyst	Minimal
* Kidney		Pigmentation	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
		Eosinophilic Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
		Hyperplasia	Nodular, Moderate
	Oval Cell	Hyperplasia	Mild
	Hepatocyte	Hypertrophy	Marked
		[ Eosinophilic Focus TGLs = 2-6 ]	
		[ Hepatocellular Adenoma TGLs = 4-22 ]	
		[ Hypertrophy TGLs = 1-6 ]	
* Lung		Infiltration Cellular	Histiocyte, Minimal
		[ Infiltration Cellular TGLs = 3-21 ]	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 432

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105432

ORGAN AND ACCOUNTABLE SITE STATUS

* Ovary		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Cyst	
* Spleen		Pigmentation	Minimal
* Stomach, Glandular		Inflammation	Chronic, Mild
		Mineralization	Minimal
		Note: mineralization in media of blood vessels in mucosa, submucoa and tunica muscularis, parietal cells and smooth muscle cells - positive for Calcium stain	
* Thyroid Gland	C Cell	Adenoma	Multiple
	C Cell	Hyperplasia	Minimal
	Follicle	Hypertrophy	Minimal
* Uterus	Cervix	Hyperplasia	Squamous, Marked

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 434

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105434

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

Vagina

**OBSERVATIONS**

* Adrenal Cortex		Angiectasis	Minimal
		Hematopoietic Cell Proliferation	Minimal
		Hypertrophy	Focal, Minimal
* Clitoral Gland		Inflammation	Chronic Active, Moderate
* Eye	Retina	Atrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Pelvis	Inflammation	Chronic Active, Minimal
	Pelvis	Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	Multiple
	Oval Cell	Hyperplasia	Minimal
		Hyperplasia	Nodular, Moderate
	Hepatocyte	Hypertrophy	Marked

Note: adenoma for TGL 4 consisted of enlarged, sometimes vacuolated hepatocytes, normal hepatic architecture (central veins, portal triads) not present in adenoma

Note: adenoma also present on slide 6

[ Fatty Change TGLs = 5-6 ]

[ Hyperplasia TGLs = 4-22 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 434

TRT#: 8

SEX: Female

DAY ON TEST: 735

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105434

ORGAN AND ACCOUNTABLE SITE STATUS

* Lung		Infiltration Cellular Mineralization	Histiocyte, Minimal Minimal
	[ Infiltration Cellular TGLs = 6-2 ]		
* Lymph Node, Mandibular		Hyperplasia	Lymphoid, Moderate
	[ Hyperplasia TGLs = 3-8 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Focal, Mild
* Skin		Squamous Cell Papilloma	
	[ Squamous Cell Papilloma TGLs = 1-21 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
* Thyroid Gland	C Cell Follicle	Hyperplasia Hypertrophy	Mild Mild
* Uterus		Adenocarcinoma	
	[ Adenocarcinoma TGLs = 2-23 ]		

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 435

TRT#: 8

SEX: Female

DAY ON TEST: 225

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105435

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
--------------------------	-----------------------------	--------------------------	----------------------------

OBSERVATIONS

* Liver		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Moderate
* Lym Node Mesen			
Note: Congo red stain on lymph node negative			
* Lymph Node, Mandibular		Hyperplasia	Plasma Cell, Mild
* Mammary Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Vacuolization Cytoplasmic	Minimal
* Spleen		Pigmentation	Mild
Note: Prussian blue positive			
* Thyroid Gland	Follicle	Hypertrophy	Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN



Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 436

TRT#: 8

SEX: Female

DAY ON TEST: 490

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105436

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Esophagus	* Eye	* Harderian Gland	* Heart
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Trachea			

MISSING

* Clitoral Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Ovary
* Urinary Bladder	* Uterus	Vagina	

AUTO PRECLUDES DIAG.

* Bone Marrow	* Pancreas	* Stomach, Glandular	* Thyroid Gland
---------------	------------	----------------------	-----------------

OBSERVATIONS

* Kidney		Pigmentation	Minimal
Note: minimal Prussian blue positive pigment in cortical tubular epithelium, pigment was negative with the bile stain			
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
	Hepatocyte	Necrosis	Mild
Note: focal coagulative necrosis of hepatocytes with acute inflammation			
	[ Basophilic Focus	TGLs = 3-6 ]	
	[ Fatty Change	TGLs = 1-21 ]	
	[ Necrosis	TGLs = 2-22 ]	
* Thymus		Atrophy	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
Time Report Requested: 15:47:52  
First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 437

TRT#: 8

SEX: Female

DAY ON TEST: 92

DOSE: 50 MG/KG

DISP: Scheduled Sacrifice

HISTO: 110520105437

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Accessory Adrenal Cortical Nodule	Minimal
* Liver	Hepatocyte	Hypertrophy	Moderate
Note: individual cell necrosis - 1 pyknotic hyereosinophilic swollen hepatocytel, multiple discrete to indiscrete clear vacuoles in cytoplsm of periportal hepatocytes			
* Thyroid Gland	Follicle	Hypertrophy	Mild
Note: increased number of small follicles lined by cuboidal to low columnar epithelium, colloid not discernible in many follicles			

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
 Time Report Requested: 15:47:52  
 First Dose M/F: 08/26/08 / 08/26/08  
 Lab: SRI

ANIMAL ID: 438

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105438

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Focal, Mild
* Int Lg Rectum			
Note: dilated vessel in submucosa containing lymphocytes and rimmed by lymphocytes			
* Liver		Basophilic Focus	
		Clear Cell Focus	Multiple
	Bile Duct	Cyst	Mild
	Oval Cell	Hyperplasia	Minimal
	Hepatocyte	Hypertrophy	Marked
Note: multilocular biliary cyst			
	[ Cyst TGLs = 2-21 ]		
	[ Hypertrophy TGLs = 3-6 ]		
* Mammary Gland		Hyperplasia	Mild
	[ Hyperplasia TGLs = 1-8-1 ]		
* Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Moderate
* Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03  
Test Type: CHRONIC  
Route: GAVAGE  
Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
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Date Report Requested: 07/28/2016  
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First Dose M/F: 08/26/08 / 08/26/08  
Lab: SRI

ANIMAL ID: 439

TRT#: 8

SEX: Female

DAY ON TEST: 543

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105439

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Thymus	Vagina
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Jejunum	* Thyroid Gland
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INSUFFICIENT TISSUE

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex	Angiectasis	Marked
	Vacuolization Cytoplasmic	Moderate

[ Angiectasis TGLs = 2-10 ]

[ Vacuolization Cytoplasmic TGLs = 2-10 ]

\* Eye  
Note: optic nerve not present

* Kidney	Nephropathy	Mild
* Liver	Clear Cell Focus	Multiple

Eosinophilic Focus	Mild
Fatty Change	Mild

Hepatocyte	Hypertrophy	Marked
Hepatocyte	Necrosis	Minimal

Note: microvesicular and macrovesicular vacuolization, some cells are greatly enlarged with a pale eosinophilic, granular, slightly vacuolated cytoplasm

Note: microvesicular and macrovesicular vacuolization, some cells are greatly enlarged with pale eosinophilic granular, slightly vacuolated, cytoplasm

Note: coagulative necrosis with minimal acute inflammation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 20209 - 03

Test Type: CHRONIC

Route: GAVAGE

Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]

CAS Number: 32534-81-9

Date Report Requested: 07/28/2016

Time Report Requested: 15:47:52

First Dose M/F: 08/26/08 / 08/26/08

Lab: SRI

ANIMAL ID: 439

TRT#: 8

SEX: Female

DAY ON TEST: 543

DOSE: 50 MG/KG

DISP: Natural Death

HISTO: 110520105439

ORGAN AND ACCOUNTABLE SITE STATUS

[ Hypertrophy TGLs = 4-6 ]

\* Lung

Infiltration Cellular

Histiocyte, Mild

[ Infiltration Cellular TGLs = 5-2 ]

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLs = 6-1 ]

\* Salivary Glands

Parotid GI

Vacuolization Cytoplasmic

Minimal

\* Spleen

Hematopoietic Cell Proliferation

Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Experiment Number: 20209 - 03  
 Test Type: CHRONIC  
 Route: GAVAGE  
 Species/Strain: RATS/Wistar Han

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
 Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]  
 CAS Number: 32534-81-9

Date Report Requested: 07/28/2016  
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 Lab: SRI

ANIMAL ID: 440

TRT#: 8

SEX: Female

DAY ON TEST: 736

DOSE: 50 MG/KG

DISP: Terminal Sacrifice

HISTO: 110520105440

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Parathyroid Gland	* Pituitary Gland
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

Vagina

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Focal, Minimal
* Clitoral Gland	Duct	Cyst	Moderate
	[ Cyst TGLs = 1-8 ]		
* Eye	Retina	Atrophy	Mild
* Kidney		Pigmentation	Minimal
* Liver		Basophilic Focus	Multiple
		Clear Cell Focus	Multiple
		Eosinophilic Focus	
		Fatty Change	Minimal
	Hepatocyte	Hypertrophy	Marked
* Lung		Infiltration Cellular	Histiocyte, Minimal
* Ovary		Atrophy	Moderate
		Granulosa Cell Tumor Benign	
		Note: nodular mass consisting of lobules of tubular structures and sheets of granulosa cells, 1-2 mitoses per 400x field, Note: granulosa cells have round to ovoid nuclei, variable amounts of eosinophilic cytoplasm and indistinct cytoplasmic borders [ Granulosa Cell Tumor Benign TGLs = 2-7 ]	
* Pancreas		Atrophy	Minimal
* Salivary Glands	Parotid GI	Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Moderate
	Follicle	Hypertrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 20209 - 03  
**Test Type:** CHRONIC  
**Route:** GAVAGE  
**Species/Strain:** RATS/Wistar Han

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
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\*\*\* END OF REPORT \*\*\*