

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>C Number:</b>	C90004
<b>Lock Date:</b>	12/11/2000
<b>Cage Range:</b>	All
<b>Date Range:</b>	All
<b>Reasons For Removal:</b>	All
<b>Removal Date Range:</b>	All
<b>Treatment Groups:</b>	All
<b>Study Gender:</b>	Both
<b>PWG Approval Date</b>	11/20/2001

Experiment Number: 90004-07

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Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41120

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Clear Cell Focus	
		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose		Foreign Body	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

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Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 2	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 729 <b>HISTO:</b> 41121
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Moderate
Note: This lesion is good example of subpleural lesion of old rats, although more severe than most. It contains septal and subpleural fibros,			
Note: alveolar epith hyper plasia, ,mononuclear and poly infiltrates.			
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	Follicular Cel	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

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Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 3	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 729 <b>HISTO:</b> 41122
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**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Blood Vessel	* 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	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
[ Cardiomyopathy TGLS = 9-18 ]			
* Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Moderate
[ Pigmentation TGLS = 8-19 ]			
* Larynx		Foreign Body	Marked
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-16+4+5 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
		Galactocele	Marked
[ Fibroadenoma TGLS = 1-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

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**First Dose M/F:** NA / NA  
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<b>ANIMAL ID:</b> 3	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 729 <b>HISTO:</b> 41122
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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
* Skin [ Adenoma TGLS = 4-15 ]	Sebaceous Gl	Inflammation Adenoma	Suppurative, Moderate
* Spleen [ Leukemia Mononuclear TGLS = 6-17 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 5-9 ]	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Urethra	Transit Epithe	Hyperplasia	Mild

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

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Species/Strain: Rat/F 344/N

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Test Compound: Propylene glycol mono-t-butyl ether

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Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 4

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41123

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Leukemia Mononuclear	
	Myocardium	Necrosis	Moderate
	[ Leukemia Mononuclear TGLS = 6-18 ]		
	[ Necrosis TGLS = 6-18 ]		
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-6 ]		
* Lung	Interstitium	Fibrosis	Minimal
		Leukemia Mononuclear	
	Note: focus of fibrosis appears to be related to concentration of leukemic cells.		
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-14 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 4-15 ]		

\* PROTOCOL REQUIRED TISSUE

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**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:37

**First Dose M/F:** NA / NA

**Lab:** BNW

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<b>ANIMAL ID:</b> 4	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 729 <b>HISTO:</b> 41123
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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
* Testes [ Adenoma TGLS = 5-9 ]	Bilateral, Interstit Cell	Adenoma	
* Thymus [ Leukemia Mononuclear TGLS = 2-3 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH	-		
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

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Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41124

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland	
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OBSERVATIONS

* Adren Cortex			
Note: No explanation for presence of two adrenal xs on slide 7, apparent adrenal tumor on slide 14. Tumor in accessory adrenal?			
* Adrenal Medulla		Hyperplasia Pheochromocytoma Malignant	Minimal
[ Pheochromocytoma Malignant TGLS = 5-14 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatocellular Adenoma Leukemia Mononuclear	
Note: hepatocellular adenoma is in liver full of mcl.			
[ Hepatocellular Adenoma TGLS = 4,6-18 ]			
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung		Leukemia Mononuclear	
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 7-20 ]			
* Pituitary Gland		Adenoma	
* Skin	Subcut Tiss	Fibrosarcoma	
Note: large tumor has whorls around large vessels, but amount of collagen makes dx of fibrosarcoma. Diff dx other spindle cell tumors.			

\* PROTOCOL REQUIRED TISSUE



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**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

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**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:37

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 5

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41124

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosarcoma TGLS = 1-15+16+17 ]

\* Spleen

Leukemia Mononuclear

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 2-9 ]

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 6	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 41125
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Nephropathy	Chronic, Mild
* Liver	Clear Cell Focus	
Mesentery	Necrosis	Mild
[ Necrosis TGLS = 1-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		
* Prostate	Inflammation	Suppurative, Mild
* Testes	Interstitial Cell	
	Germinal Epith	Mild
	Interstitial Cell	Moderate

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

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Species/Strain: Rat/F 344/N

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Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41126

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla [ Pheochromocytoma Benign TGLS = 3-7 ]		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
Lymph Node [ Ectasia TGLS = 2-14 ]	Pancreatic	Ectasia	Marked
* Pituitary Gland		Hyperplasia	Mild
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 1-9 ]	Bilateral, Interstit Cell	Adenoma	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

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Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41127

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla          | Blood Vessel              | * Bone                      |
| * Bone Marrow            | * Brain                    | Coagulating Gland         | * Epididymis                |
| * Esophagus              | * Eye                      | * Harderian Gland         | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | Lacrimal Gland            | * Larynx                    |
| * Lung                   | * Mammary Gland            | * Nose                    | * Pancreas                  |
| * Parathyroid Gland      | Pleura                     | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        | * Zymbal's Gland           |                           |                             |

MISSING

- |                          |                           |
|--------------------------|---------------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal |
|--------------------------|---------------------------|

OBSERVATIONS

- |                                      |                           |                      |               |
|--------------------------------------|---------------------------|----------------------|---------------|
| * Islets, Pancreatic                 |                           | Adenoma              |               |
| * Kidney                             |                           | Nephropathy          | Chronic, Mild |
| * Liver                              |                           | Leukemia Mononuclear |               |
| Lymph Node                           | Thoracic                  | Leukemia Mononuclear |               |
| [ Leukemia Mononuclear TGLS = 4-14 ] |                           |                      |               |
| * Lymph Node, Bronchial              |                           | Leukemia Mononuclear |               |
| * Lymph Node, Mesenteric             |                           | Leukemia Mononuclear |               |
| [ Leukemia Mononuclear TGLS = 3-14 ] |                           |                      |               |
| * Pituitary Gland                    |                           | Adenoma              |               |
| [ Adenoma TGLS = 1-10 ]              |                           | Leukemia Mononuclear |               |
| [ Leukemia Mononuclear TGLS = 1-10 ] |                           |                      |               |
| * Spleen                             |                           | Leukemia Mononuclear |               |
| * Testes                             | Bilateral, Interstit Cell | Adenoma              |               |
| [ Adenoma TGLS = 2-9 ]               |                           |                      |               |

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

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Species/Strain: Rat/F 344/N

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Test Compound: Propylene glycol mono-t-butyl ether

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Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 409

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41128

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Brain			
Note: Midline glandular object on cerebrum interpreted as normal pineal body.			
* Kidney	Cortex	Infarct	Moderate
[ Infarct TGLS = 3-7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

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CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 718

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41129

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Fatty Change	Mild
Mesentery		Leukemia Mononuclear	
[ Necrosis TGLS = 4-14 ]		Necrosis	Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Inflammation	Chronic, Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 11

**TRT#:** 1  
**DOSE:** CONTROL

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41130

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate
[ Adenoma TGLS = 4-9 ]			
[ Atrophy TGLS = 3-9 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41131

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung	Interstitialium	Fibrosis	Mild
	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Mild
		Necrosis	Mild
Mesentery			
[ Necrosis TGLS = 2-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 13

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 655

**DOSE:** CONTROL

**DISP:** Natural Death

**HISTO:** 41132

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Rectum
* Islets, Pancreatic	* Larynx	* Liver	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum			

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Minimal

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 14

TRT#: 1

SEX: Male

DAY ON TEST: 604

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41133

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Interstitium	Fibrosis	Mild
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Nose	Respirat Epith	Foreign Body	Moderate
		Hyperplasia	Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland		Hyperplasia	Mild
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 2-14 ]			
[ Necrosis TGLS = 3-14 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Mild
		Ulcer	Marked
[ Hyperplasia TGLS = 5-16 ]			
[ Ulcer TGLS = 5-10 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 14

**TRT#:** 1  
**DOSE:** CONTROL

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 604  
**HISTO:** 41133

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes [ Adenoma TGLS = 1-9 ]	Bilateral, Interstit Cell	Adenoma
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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:37

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 15

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 642

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41134

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney	Cortex	Infarct	Moderate
		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	[ Infarct TGLS = 5-16 ]		
* Liver		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-14 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-3 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-17 ]		
* Pituitary Gland		Hyperplasia	Moderate
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 15	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 642
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41134

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 3-15 ]		
[ Leukemia Mononuclear TGLS = 2-15 ]		
* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 4,8-9 ]		

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<b>PRIMARY CAUSE OF DEATH</b>	- Spleen Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 646

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41135

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
[ Adenoma TGLS = 3-9 ]			
[ Atrophy TGLS = 4-9 ]			

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41136

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung			
Note: tgl 3 no corresponding lesion			
* Pituitary Gland		Adenoma	
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-14+15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 18

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41137

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Larynx		Inflammation	Chronic, Minimal
* Liver		Clear Cell Focus	
* Lung		Inflammation	Chronic, Minimal
* Nose		Inflammation	Suppurative, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Interstitial Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 19

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 458

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41138

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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      | Lacrimal Gland              | * Larynx                 |
| * Liver                    | * Lymph Node, Mesenteric  | * Mammary Gland             | * Nose                   |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

**MISSING**

- |                         |                          |                           |          |
|-------------------------|--------------------------|---------------------------|----------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Thymus |
|-------------------------|--------------------------|---------------------------|----------|

**OBSERVATIONS**

- |                                 |                |              |                  |
|---------------------------------|----------------|--------------|------------------|
| * Kidney                        |                | Nephropathy  | Chronic, Minimal |
| * Lung                          |                | Inflammation | Chronic, Minimal |
| Pleura                          |                | Inflammation | Chronic, Mild    |
| * Testes                        | Interstit Cell | Adenoma      |                  |
| * Zymbal's Gland                |                | Carcinoma    |                  |
| [ Carcinoma TGLS = 2-14+15+16 ] |                |              |                  |

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 296

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41139

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Hemorrhage	Marked
* Eye		Hemorrhage	Marked
[ Hemorrhage TGLS = 2-13 ]			
* Kidney	Pelvis	Dilatation	Marked
	Renal Tubule	Mineralization	Moderate
[ Dilatation TGLS = 7-7 ]			
* Liver		Leukemia Mononuclear	
* Lung		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
[ Hemorrhage TGLS = 3-4+5 ]			
* Pituitary Gland		Adenoma	
* Spleen		Hemorrhage	Marked
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 5-14 ]			
[ Leukemia Mononuclear TGLS = 4-14 ]			
* Stomach, Forestomach		Ulcer	Moderate
* Urinary Bladder		Hemorrhage	Marked
[ Hemorrhage TGLS = 6-16 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 20

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 296

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41139

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Kidney Pelvis Dilatation

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage;Spleen Hemorrhage;Urinary Bladder Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41140

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 Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Intestine Large, Rectum		Diverticulum	
[ Diverticulum TGLS = 5-16 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
Lymph Node	Deep Cervical	Hyperplasia	Lymphoid, Moderate
[ Hyperplasia TGLS = 1-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Hyperkeratosis	Moderate
	Sebaceous Gl	Hyperplasia	Squamous, Moderate
[ Hyperkeratosis TGLS = 3-15 ]			
[ Hyperplasia TGLS = 3-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:37  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 21

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41140

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 684

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41141

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain	Compression	Moderate
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Fatty Change	Mild
Mesentery	Necrosis	Mild
[ Necrosis TGLS = 3-15 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Preputial Gland	Hyperplasia	Moderate
	Inflammation	Suppurative, Moderate
[ Hyperplasia TGLS = 2-14 ]		
* Prostate	Inflammation	Suppurative, Minimal
* Testes	Adenoma	
	Atrophy	Moderate
[ Adenoma TGLS = 4-9 ]		

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:37

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 23

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41142

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
* Pituitary Gland		Adenoma	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 24

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 639

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41143

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Bone [ Osteosarcoma TGLS = 3-14 ]	Mandible	Osteosarcoma	
* Kidney		Nephropathy	Chronic, Minimal
* Liver [ Leukemia Mononuclear TGLS = 6-6 ]		Leukemia Mononuclear	
* Lung	Interstitialium Alveolus	Fibrosis Infiltration Cellular Osteosarcoma	Minimal Histiocyte, Minimal Metastatic (Bone)
Note: small osteosarcoma mets in both lungs (slides 4 and 5).			
Lymph Node [ Leukemia Mononuclear TGLS = 2-15 ]	Deep Cervical	Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Hyperplasia TGLS = 1-3 ]		Hyperplasia	Lymphoid, Moderate
* Pituitary Gland [ Adenoma TGLS = 4-10 ]		Adenoma	
Pleura		Inflammation Mesothelioma Malignant	Chronic, Mild

Note: mesothelioma on mediastinum (slide 3), visceral pleura of right lung (slide 4).

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 24	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 639 <b>HISTO:</b> 41143
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate

[ Adenoma TGLS = 5-9 ]

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PRIMARY CAUSE OF DEATH	- Bone Mandible Osteosarcoma
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 631

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41144

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular Inflammation	Minimal Histiocyte, Mild Chronic, Minimal
	[ Infiltration Cellular TGLS = 3-17 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-14 ]		
* Nose	Goblet Cell Respirat Epith	Foreign Body Hyperplasia Hyperplasia Inflammation Adenoma	Moderate Minimal Mild Suppurative, Mild
* Pituitary Gland			
	[ Adenoma TGLS = 2-10 ]		
* Prostate		Inflammation	Suppurative, Mild
* Skin		Keratoacanthoma	
	[ Keratoacanthoma TGLS = 1-15+16 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 25	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 631
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41144

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Leukemia Mononuclear	
* Testes	Germinal Epith	Atrophy	Moderate
PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma		

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 625

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41145

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Minimal
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41146

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Brain		Compression	Mild
* Islets, Pancreatic		Adenoma	
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
		Nephropathy	Chronic, Marked
	[ Nephropathy TGLS = 3-7 ]		
* Liver		Leukemia Mononuclear	
Mesentery		Necrosis	Marked
	[ Necrosis TGLS = 1-14 ]		
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 2-10 ]		
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
* Testes	Germinal Epith	Atrophy	Mild
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 630

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41147

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Brain		Compression	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Fatty Change	Mild
		Leukemia Mononuclear	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Germinal Epith	Atrophy	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41148

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Intestine Large, Colon		Polyp Adenomatous	
Note: tgl 3 is not mes ln, is polypoid tumor from gut, presumably colon. Colon on sl 8 looks proliferative but no connection.			
[ Polyp Adenomatous TGLS = 3-14 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41149

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
	Alveolar Epith	Metaplasia	Squamous, Minimal
* Pituitary Gland		Angiectasis	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	

[ Adenoma TGLS = 1-9 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 681

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41150

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Thymus	* Thyroid Gland	* Trachea	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Necrosis	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Eye			
Note: tgl 2 no corresponding micro lesion			
* Kidney	Cortex	Infarct	Marked
		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
[ Leukemia Mononuclear TGLS = 8-7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4,5-6+14+15 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Preputial Gland		Inflammation	Suppurative, Mild
* Prostate		Inflammation	Suppurative, Minimal
* Seminal Vesicle	Epithelium	Hyperplasia	Moderate
		Inflammation	Suppurative, Marked
* Spleen		Accessory Spleen	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 31	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 681 <b>HISTO:</b> 41150
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Accessory Spleen TGLS = 6-16 ]		Leukemia Mononuclear	
* Stomach, Glandular [ Lipoma TGLS = 10-18 ]	Muscularis	Lipoma	
* Testes [ Adenoma TGLS = 9-9 ]	Bilateral, Interstit Cell	Adenoma	
* Urinary Bladder	Transit Epithe	Hyperplasia Inflammation Necrosis Ulcer	Mild Suppurative, Marked Marked Marked

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PRIMARY CAUSE OF DEATH	-
CONTRIBUTORY CAUSE OF DEATH	- Urinary Bladder Necrosis

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41151

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 3-15 ]		
	[ Leukemia Mononuclear TGLS = 2-6 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
Lymph Node	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-14 ]		
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	Minimal
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 5-16 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 6-9 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 32	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41151

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Moderate
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 712

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41152

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Salivary Glands	* Stomach, Glandular
* Trachea	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney		Leukemia Mononuclear Nephropathy	Chronic, Mild
[ Leukemia Mononuclear TGLS = 15-7+19 ]			
* Liver		Leukemia Mononuclear Thrombosis	Marked
[ Leukemia Mononuclear TGLS = 9-6 ]			
[ Thrombosis TGLS = 9-6 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-4+5 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-20 ]			
* Pituitary Gl			
Note: tgl 5 no corresponding lesion			
* Prostate		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 33	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 712
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41152

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Seminal Vesicle [ Leukemia Mononuclear TGLS = 12-21 ]		Leukemia Mononuclear	
* Skin [ Hyperkeratosis TGLS = 1,2,14-14+15 ]		Hyperkeratosis	Marked
* Spleen [ Fibrosis TGLS = 8-18 ] [ Leukemia Mononuclear TGLS = 7-18 ]		Fibrosis Leukemia Mononuclear	Moderate
* Stomach, Forestomach [ Ulcer TGLS = 17-23 ]		Ulcer	Marked
* Testes [ Adenoma TGLS = 11-9 ] [ Atrophy TGLS = 10-9 ]	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Liver Thrombosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41153

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver	Bile Duct	Cyst	Marked
[ Cyst TGLS = 3-16 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Pituitary Gland		Adenoma	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-9 ]			
Tongue	Epithelium	Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41154

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Brain		Compression	Moderate
		Hemorrhage	Mild
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Vacuolization Cytoplasmic	Moderate
[ Vacuolization Cytoplasmic TGLS = 4-17 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Hyperkeratosis	Moderate
		Ulcer	Mild
[ Ulcer TGLS = 1-15 ]			
* Testes	Interstitial Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41155

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Liver	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Epididymis		Mesothelioma Malignant	
* Kidney		Nephropathy	Chronic, Moderate
* Lung		Alveolar/Bronchiolar Carcinoma	
[ Alveolar/Bronchiolar Carcinoma TGLS = 3-16 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Mild
* Skin		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 1-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-9 ]		Mesothelioma Malignant	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Tongue	Epithelium	Hyperplasia	Marked
[ Hyperplasia TGLS = 2-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Parathyroid Gland
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OBSERVATIONS

* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-14 ]			
* Nose		Foreign Body	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 7-16 ]			
* Spleen		Leukemia Mononuclear	
Note: tgl 3 no corresponding lesion at histo exam			
[ Leukemia Mononuclear TGLS = 2-15 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 37

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41156

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 38

**TRT#:** 1  
**DOSE:** CONTROL

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41157

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney	Pelvis, Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Hepatocellular Adenoma	
		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 4,5-6 ]	
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 7-15 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 1-3 ]	
Mesentery		Necrosis	Moderate
		[ Necrosis TGLS = 6-14 ]	
* Nose	Glands	Dilatation	Mild
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 2-10 ]	
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 38	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41157

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 3-16 ]

* Testes	Germinal Epith	Atrophy	Mild
	Interstit Cell	Hyperplasia	Moderate
Tooth	Peridont Tiss	Inflammation	Moderate

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 465

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41158

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

Lymph Node	* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain	Compression	
	Hemorrhage	Marked
* Liver	Vacuolization Cytoplasmic	Moderate
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 3-10 ]		
* Prostate	Inflammation	Suppurative, Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 668

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41159

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	* Larynx	* Pancreas	* Parathyroid Gland
Pleura	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-16 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-17 ]			
* Mammary Gland		Galactocele	Moderate
[ Galactocele TGLS = 2-15 ]			
* Nose		Inflammation	Suppurative, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Preputial Gland		Adenoma	
[ Adenoma TGLS = 1-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 40	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 668 <b>HISTO:</b> 41159
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 6-16 ]		Leukemia Mononuclear	
* Stomach, Glandular [ Necrosis TGLS = 11-19 ]		Necrosis	Moderate
* Testes [ Adenoma TGLS = 5-9 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland [ Carcinoma TGLS = 3-3 ]	C Cell	Carcinoma	

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Stomach;Glandular Necrosis

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 41

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41160

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	Coagulating Gland	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Marked
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lung	Interstitialium Alveolus	Fibrosis Infiltration Cellular Inflammation	Mild Histiocyte, Mild Chronic, Minimal
Note: tgl 12 no corresponding lesion			
[ Infiltration Cellular TGLS = 11-19 ]			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Mammary Gland		Galactocele	Marked
[ Galactocele TGLS = 2-15 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 10-18 ]			
* Pituitary Gland		Adenoma	
Note: bone formation in midst of pituitary tumor on slide 10.			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 41	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41160

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 5-10 ]			
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 11-19 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 9-22 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Skin	Subcut Tiss	Lipoma	
[ Lipoma TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-21 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 8-9 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 42

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 656

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41161

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone Marrow	* Brain
Coagulating Gland	* 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
* Larynx	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Zymbal's Gland

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Adrenal Medulla [ Pheochromocytoma Malignant TGLS = 7-7 ]	Pheochromocytoma Malignant	
* Bone	Fibrous Osteodystrophy	Moderate
* Heart [ Leukemia Mononuclear TGLS = 8-17 ]	Leukemia Mononuclear	
* Kidney	Nephropathy	Chronic, Minimal
* Liver [ Leukemia Mononuclear TGLS = 6-6 ]	Leukemia Mononuclear	
* Lung	Leukemia Mononuclear Necrosis	Focal, Marked
* Lymph Node, Bronchial	Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 1-3 ]	Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 9-18 ]	Leukemia Mononuclear	
* Prostate	Inflammation	Suppurative, Minimal
* Spleen [ Accessory Spleen TGLS = 3,4-15+14 ]	Accessory Spleen Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 42	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 656 <b>HISTO:</b> 41161
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 5-16 ]			
* Testes	Interstit Cell Germinal Epith	Adenoma Atrophy	Mild
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	Follicular Cel	Carcinoma	
* Urinary Bladder	Transit Epithe	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 723

DOSE: CONTROL

DISP: Natural Death

HISTO: 41162

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 43	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 723
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Natural Death	<b>HISTO:</b> 41162

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Interstit Cell	Hyperplasia	Moderate
<b>PRIMARY CAUSE OF DEATH</b>	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 712

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41163

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart	Atrium	Thrombosis	Marked
[ Thrombosis TGLS = 5-6 ]			
* Islets, Pancreatic		Adenoma	
[ Adenoma TGLS = 4-16 ]			
* Kidney	Cortex	Infarct	Moderate
[ Infarct TGLS = 8-19 ]		Nephropathy	Chronic, Minimal
* Liver		Hepatocellular Adenoma	
[ Hepatocellular Adenoma TGLS = 7-17 ]		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Nose		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Hyperplasia	Marked
* Prostate		Inflammation	Suppurative, Mild
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-14+15 ]			
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 44	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 712 <b>HISTO:</b> 41163
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 2-18 ]		
* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 6-9 ]		
* Thyroid Gland	C Cell	Adenoma
[ Adenoma TGLS = 3-3 ]		

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PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41164

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Seminal Vesicle	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Clear Cell Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-14 ]			
* Pituitary Gland		Hyperplasia	Moderate
* Preputial Gland		Inflammation	Suppurative, Marked
[ Inflammation TGLS = 1-16 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 2-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 655

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41165

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Kidney	Cortex, Renal Tubule Pelvis, Transit Epithe	Adenoma Hyperplasia Nephropathy	Minimal Chronic, Marked
Note: tubular cell adenoma on slide 5 ; see arrow [ Nephropathy TGLS = 4-7 ]			
* Liver		Vacuolization Cytoplasmic	Moderate
[ Vacuolization Cytoplasmic TGLS = 3-6 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Preputial Gland		Inflammation	Suppurative, Marked
[ Inflammation TGLS = 6-14 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Stomach, Forestomach		Hyperplasia Inflammation	Squamous, Moderate Suppurative, Moderate
[ Hyperplasia TGLS = 7-16 ]			
* Testes	Germinal Epith	Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 46

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 655

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41165

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Atrophy TGLS = 5-9 ]

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 642

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41166

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Nose	* Pancreas	* Pituitary Gland	Pleura
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-18 ]			
* Parathyroid Gland		Hyperplasia	Moderate
* Preputial Gland		Hyperplasia	Marked
[ Hyperplasia TGLS = 1-16 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 47

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 642

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41166

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41167

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 5-7 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Degeneration	Cystic, Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-9 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 6-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
[ Adenoma TGLS = 3-14 ]			
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 48

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41167

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 49

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41168

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Liver	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 4-7 ]			
* Kidney		Nephropathy	Chronic, Moderate
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Interstitial Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate
	Interstitial Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 539

DOSE: CONTROL

DISP: Natural Death

HISTO: 41169

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Islets, Pancreatic	* Larynx	* Liver	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Brain	Hemorrhage	Marked
* Kidney	Nephropathy	Chronic, Minimal
* Nose	Foreign Body	Moderate
	Inflammation	Suppurative, Mild
* Pituitary Gland	Adenoma	
	Hemorrhage	Marked
[ Adenoma TGLS = 1-10 ]		
* Prostate	Inflammation	Suppurative, Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage; Pituitary Gland Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 201

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41420

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Cyst	Marked
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 202

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 726

**DOSE:** 75 PPM

**DISP:** Natural Death

**HISTO:** 41421

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Pheochromocytoma Benign	
* Brain		Hemorrhage	Moderate
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Accessory Spleen	
		Leukemia Mononuclear	
* Testes	Germinal Epith	Atrophy	Minimal

PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 203

TRT#: 3

SEX: Male

DAY ON TEST: 697

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41422

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lung	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Adrenal Medulla		Hyperplasia	Marked
* Intestine Large, Cecum	Lymphoid Tiss	Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 9-16 ]			
[ Necrosis TGLS = 9-16 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
[ Leukemia Mononuclear TGLS = 11-20 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6 ]			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-15 ]			
[ Leukemia Mononuclear TGLS = 2-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
Mesentery		Necrosis	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 203	<b>TRT#:</b> 3 <b>DOSE:</b> 75 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 697 <b>HISTO:</b> 41422
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Necrosis TGLS = 6-18 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Accessory Spleen Leukemia Mononuclear	
[ Accessory Spleen TGLS = 8-14 ]			
[ Leukemia Mononuclear TGLS = 7-14 ]			
* Stom Gland			
Note: tgl 12 no corresponding micro lesion.			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-9 ]			
* Thyroid Gland	C Cell	Adenoma	Multiple
[ Adenoma TGLS = 1-3 ]			

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PRIMARY CAUSE OF DEATH	- Intestine Large, Cecum Necrosis
CONTRIBUTORY CAUSE OF DEATH	- Intestine Large;Cecum Lymphoid Tiss Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 204

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41423

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Islets, Pancreatic		Adenoma	
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Hyperkeratosis	Marked
[ Hyperkeratosis TGLS = 2-15 ]			
* Testes	Germinal Epith	Atrophy	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 205

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41424

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	Lacrimal Gland	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]			
Lymph Node	Deep Cervical	Ectasia	Moderate
	Pancreatic	Pigmentation	Moderate
[ Ectasia TGLS = 1-15 ]			
[ Pigmentation TGLS = 6-14 ]			
* Pancreas	Acinus	Atrophy	Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
[ Adenoma TGLS = 4-9 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 205

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41424

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Atrophy TGLS = 5-9 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 206

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41425

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Heart		Cardiomyopathy	Mild
[ Cardiomyopathy TGLS = 9-16 ]			
* Kidney		Infarct	Marked
[ Nephropathy TGLS = 6-7 ]		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
	Alveolus	Leukemia Mononuclear	
[ Infiltration Cellular TGLS = 11-14 ]		Proteinosis	Mild
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-8 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-19 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Respirat Epith	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 206

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41425

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland [ Adenoma TGLS = 2-10 ]	Inflammation Adenoma	Suppurative, Moderate
Pleura	Inflammation	Chronic, Mild
* Prostate	Inflammation	Suppurative, Mild
* Skin [ Basal Cell Adenoma TGLS = 7-20 ] [ Cyst Epithelial Inclusion TGLS = 8-18 ]	Basal Cell Adenoma Cyst Epithelial Inclusion	Marked
* Spleen [ Leukemia Mononuclear TGLS = 5-15 ]	Leukemia Mononuclear	
* Stomach, Forestomach	Hyperplasia	Squamous, Mild
* Testes [ Adenoma TGLS = 4-9 ]	Interstit Cell Adenoma Germinal Epith Atrophy	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 207

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41426

**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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Preputial Gland		Hyperplasia	Marked
[ Hyperplasia TGLS = 1-9 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 208

TRT#: 3

SEX: Male

DAY ON TEST: 464

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41427

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Liver	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Bone [ Carcinoma TGLS = 4-14 ]	Mandible	Carcinoma	Metastatic (Zymbal'S Gland)
* Int Lg Colon Note: tgl 6 no corresponding lesion			
* Int Sm Duoden Note: tgl 5 no corresponding lesion			
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet Nephropathy	Mild Chronic, Minimal
* Liver Note: tgl 12 no corresponding micro lesion			
* Lung Note: tgl 11 no corresponding micro lesion [ Carcinoma TGLS = 3,9,10-4+5+15 ]		Carcinoma	Metastatic (Zymbal'S Gland)
* Lymph Node, Mandibular [ Carcinoma TGLS = 2-16 ]		Carcinoma	Metastatic (Zymbal'S Gland)
* Lymph Node, Mediastinal		Carcinoma	Metastatic (Zymbal'S Gland)
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:38

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 208

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 464

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41427

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Testes

Interstit Cell

Adenoma

[ Adenoma TGLS = 13-9 ]

\* Zymbal's Gland

Carcinoma

[ Carcinoma TGLS = 1-19 ]

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PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 209

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41428

**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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney	Cortex, Renal Tubule	Adenoma	
		Nephropathy	Chronic, Moderate
[ Adenoma TGLS = 5-16 ]			
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-15 ]			
* Prostate		Hyperplasia	Mild
[ Hyperplasia TGLS = 4-14 ]			
* Seminal Vesicle		Dilatation	Moderate
[ Dilatation TGLS = 3-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 209

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41428

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 210

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41429

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 211

TRT#: 3

SEX: Male

DAY ON TEST: 513

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41430

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Liver
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-15 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

- Skin Subcut Tiss Fibroma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 212

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41431

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Islets, Pancreatic [ Adenoma TGLS = 5-15 ]		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver Note: tgl 8 no corresponding micro lesion		Basophilic Focus	
* Lung [ Hemorrhage TGLS = 1-5 ] [ Hyperplasia TGLS = 7-14 ]	Alveolar Epith Alveolus	Hemorrhage Hyperplasia Infiltration Cellular	Marked Moderate Histiocyte, Mild
Mesentery [ Necrosis TGLS = 4-17 ]		Necrosis	Moderate
* Nose		Foreign Body	Moderate
* Pituitary Gland [ Adenoma TGLS = 6-10 ]		Adenoma	
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 212

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41431

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-9 ]

[ Atrophy TGLS = 3-9 ]

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 213

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41432

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * 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      | * Larynx                    | * Lung                   |
| * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Nose                      | * Pancreas               |
| * Parathyroid Gland        | Pleura                    | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thymus                  | * Thyroid Gland             | * Trachea                |
| * Urinary Bladder          |                           |                             |                          |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |                            |                      |                    |
|----------------------------|----------------------|--------------------|
| * Kidney                   | Nephropathy          | Chronic, Mild      |
| * Liver                    | Clear Cell Focus     |                    |
|                            | Leukemia Mononuclear |                    |
| * Mammary Gland            | Carcinoma            |                    |
|                            | Metaplasia           | Squamous, Moderate |
| [ Carcinoma TGLS = 1-14 ]  |                      |                    |
| [ Metaplasia TGLS = 1-14 ] |                      |                    |
| * Pituitary Gland          | Adenoma              |                    |
| * Spleen                   | Leukemia Mononuclear |                    |
| * Testes                   | Adenoma              |                    |
|                            | Atrophy              | Marked             |
| [ Adenoma TGLS = 3-9 ]     |                      |                    |
| [ Atrophy TGLS = 4-9 ]     |                      |                    |
| * Zymbal's Gland           | Carcinoma            |                    |
| [ Carcinoma TGLS = 2-15 ]  |                      |                    |

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 214

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41433

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Lung		Hemorrhage	Mild
[ Hemorrhage TGLS = 2-14 ]			
* Lymph Node, Mediastinal		Angiectasis	Moderate
[ Angiectasis TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 215

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41434

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Lymph Node, Mediastinal		Hyperplasia	Lymphoid, Mild
[ Hyperplasia TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 216

TRT#: 3

SEX: Male

DAY ON TEST: 509

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41435

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Liver	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	
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OBSERVATIONS

* Brain		Compression	Moderate
		Hemorrhage	Minimal
* Epididymis		Mesothelioma Malignant	
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin	Pinna	Neural Crest Tumor	
[ Neural Crest Tumor TGLS = 1-14 ]			
* Testes	Germinal Epith	Atrophy	Minimal
		Mesothelioma Malignant	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 217

TRT#: 3

DOSE: 75 PPM

SEX: Male

DISP: Natural Death

DAY ON TEST: 713

HISTO: 41436

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	* Larynx
* Liver	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Brain		Hemorrhage	Marked
* Heart		Cardiomyopathy	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 218

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41437

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 1,2-6 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 3-9 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 219

TRT#: 3

SEX: Male

DAY ON TEST: 591

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41438

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]			
* Nose		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	Follicular Cel	Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-3 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 220

TRT#: 3

SEX: Male

DAY ON TEST: 642

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41439

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	Coagulating Gland	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Minimal
* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
* Lymph Node, Mesenteric	Ectasia	Moderate
[ Ectasia TGLS = 4-14 ]		
* Mammary Gland	Carcinoma	
	Fibroadenoma	
[ Carcinoma TGLS = 1-17 ]		
[ Fibroadenoma TGLS = 3-16 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		
* Prostate	Inflammation	Suppurative, Minimal
* Spleen	Leukemia Mononuclear	
* Testes	Adenoma	
	Interstit Cell	
	Germinal Epith	
	Atrophy	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 221

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41440

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 2-6 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Urinary Bladder	Transit Epithe	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 222

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41441

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Larynx		Inflammation	Suppurative, Marked
* Liver		Clear Cell Focus	
		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
[ Adenoma TGLS = 2-9 ]			
[ Atrophy TGLS = 3-9 ]			
Tooth	Peridont Tiss	Inflammation	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 223

TRT#: 3

SEX: Male

DAY ON TEST: 709

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41442

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Colon
* Intestine Large, Rectum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-3 ]			
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 1-14+15 ]			
[ Necrosis TGLS = 2,3-14+15 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
[ Adenoma TGLS = 4-9 ]			
[ Atrophy TGLS = 5-9 ]			

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 224

TRT#: 3

SEX: Male

DAY ON TEST: 705

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41443

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Islets, Pancreatic	* Larynx
* Liver	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Chronic, Marked
* Liver			
Note: tgl 7 no corresponding micro lesion			
* Mammary Gland		Galactoceles	Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Skin	Subcut Tiss	Lipoma	
[ Lipoma TGLS = 3-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-9 ]			
* Thyroid Gland	Follicular Cel	Adenoma	
[ Adenoma TGLS = 6-3 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 225

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41444

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Epididymis		Mesothelioma Malignant	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
Peritoneum		Mesothelioma Malignant	
[ Mesothelioma Malignant TGLS = 3,4-9+14 ]			
* Pituitary Gland		Angiectasis	Moderate
[ Angiectasis TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
		Mesothelioma Malignant	
[ Adenoma TGLS = 3-9 ]			
[ Mesothelioma Malignant TGLS = 3,4-9+14 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 226

TRT#: 3

SEX: Male

DAY ON TEST: 666

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41445

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Larynx		Foreign Body	Marked
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-19 ]			
[ Leukemia Mononuclear TGLS = 2-17 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 5-18 ]			
* Nose		Foreign Body	Marked
		Inflammation	Suppurative, Marked
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 226	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 666
	<b>DOSE:</b> 75 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41445

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 4-14 ]		Leukemia Mononuclear	
* Testes	Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 227

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41446

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 2-7 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 1-6 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,4-9 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 228

TRT#: 3

SEX: Male

DAY ON TEST: 719

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41447

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 229

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41448

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-8 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation Adenoma	Hyaline, Minimal Minimal
* Pituitary Gland			
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 2,3-15 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4,5-9 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 230

TRT#: 3

SEX: Male

DAY ON TEST: 675

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41449

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 231

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 569

**DOSE:** 75 PPM

**DISP:** Natural Death

**HISTO:** 41450

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Harderian Gland	* Heart	* Islets, Pancreatic	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx
* Nose	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Pituitary Gland		Hemorrhage	Marked
[ Hemorrhage TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Hemorrhage

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 232

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41451

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thyroid Gland	* Trachea	* Urinary Bladder	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
* Zymbal's Gland			

**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule Pelvis, Transit Epithe	Hyperplasia Hyperplasia Nephropathy Basophilic Focus Clear Cell Focus Leukemia Mononuclear Adenoma	Mild Minimal Chronic, Marked
* Liver			
* Pituitary Gland [ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen [ Fibrosis TGLS = 3-6 ]		Fibrosis Leukemia Mononuclear	Mild
* Testes [ Adenoma TGLS = 2-9 ]	Bilateral, Interstit Cell	Adenoma	

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 233

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41452

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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
[ Clear Cell Focus TGLS = 4-14 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation Foreign Body Inflammation Adenoma	Hyaline, Moderate Minimal Moderate Suppurative, Minimal
* Pituitary Gland			
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 3-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 234

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41453

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Heart	Myocardium	Fibrosis	Marked
[ Fibrosis TGLS = 1-14 ]			
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Eosinophilic Focus	
Note: tgl 2 no corresponding micro lesion			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Nasolacrim Dct	Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Mild
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 235

TRT#: 3

DOSE: 75 PPM

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 729

HISTO: 41454

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
Note: NO CORRELATING LESIONS FOR TGLS 8-6.			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5,9-17+16 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Hemorrhage	Moderate
[ Hemorrhage TGLS = 10-19 ]			
[ Necrosis TGLS = 3-18 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Foreign Body	Moderate
	Goblet Cell	Hyperplasia	Minimal
		Inflammation	Suppurative, Mild
* Pituitary Gland		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 235	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 75 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41454

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 6,7-14+15 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 4-9 ]	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
* Thyroid Gland	C Cell	Adenoma	

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 236

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 656

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41455

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Papilla	Mineralization Nephropathy	Minimal Chronic, Mild
* Liver		Leukemia Mononuclear	
* Mammary Gland		Galactoceles	Marked
[ Galactoceles TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin			
Note: tgl 5 no corresponding micro lesion.			
* Spleen		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 3-9 ]			

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 237

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41456

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Lipoma Nephropathy	Chronic, Minimal
[ Lipoma TGLS = 4-7 ]			
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin	Subcut Tiss	Lipoma	
[ Lipoma TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 238

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41457

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
		Hemorrhage	Mild
* Kidney	Cortex, Renal Tubule	Hyperplasia	Marked
		Nephropathy	Chronic, Marked
Note: see arrow adjacent to r kidney section; large hyperplastic tubule, diff dx adenoma. rar [ Nephropathy TGLS = 4-7 ]			
* Liver		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Preputial Gland		Hyperplasia	Moderate
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 238

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41457

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-9 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 239

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41458

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Blood Vessel	* Bone	* 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	* Larynx
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Mandibular	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 4-7 ]			
* Bone Marrow		Leukemia Mononuclear	
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
		Nephropathy	Chronic, Marked
* Liver		Histiocytic Sarcoma	Metastatic (Skin)
		Leukemia Mononuclear	
[ Histiocytic Sarcoma TGLS = 3-6 ]			
* Lung		Histiocytic Sarcoma	Metastatic (Skin)
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Histiocytic Sarcoma	Metastatic (Skin)
* Lymph Node, Mediastinal		Histiocytic Sarcoma	Metastatic (Skin)
[ Histiocytic Sarcoma TGLS = 7-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-8 ]			
* Nose		Inflammation	Suppurative, Minimal
* Prostate		Inflammation	Suppurative, Mild
* Skin	Subcut Tiss	Fibroma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 239	<b>TRT#:</b> 3 <b>DOSE:</b> 75 PPM	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 41458
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Subcut Tiss	Histiocytic Sarcoma	
Note: hyaline droplets in renal tubules suggest histiocytic sarcoma, altho can also see these with mcl. lung, skin lesions could also be variant of mcl.			
	[ Histiocytic Sarcoma TGLS = 5,6-15+17 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-14 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 1-9 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 240

TRT#: 3

SEX: Male

DAY ON TEST: 642

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41459

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

Ear		Cyst	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
Lymph Node	Deep Cervical	Inflammation	Marked
[ Inflammation TGLS = 1-14 ]			
* Nose		Inflammation	Suppurative, Marked
Oral Mucosa		Ulcer	Marked
* Pituitary Gland		Hyperplasia	Moderate
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Mild
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 2-9 ]			
Tooth		Malformation	Marked

PRIMARY CAUSE OF DEATH

- Nose Inflammation

CONTRIBUTORY CAUSE OF DEATH

- Ear Cyst; Oral Mucosa Ulcer

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 241

TRT#: 3

SEX: Male

DAY ON TEST: 689

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41460

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	* Bone	* Bone Marrow	* Brain
Coagulating Gland	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Mild
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 1-16 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 242

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 648

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41461

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Pleura	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

**MISSING**

* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Medulla	Pheochromocytoma Benign	
* Brain	Compression	Moderate
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Hepatodiaphragmatic Nodule	Marked
	Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]		
* Lymph Node, Bronchial	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Preputial Gland	Carcinoma	
[ Carcinoma TGLS = 2-15 ]		
* Spleen	Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 243

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41462

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
Note: NO CORRELATING LESIONS FOR TGLS 7-6.			
[ Hepatodiaphragmatic Nodule TGLS = 6-14 ]			
[ Leukemia Mononuclear TGLS = 8-6 ]			
* Lung		Leukemia Mononuclear	
Note: tgl 9 no corresponding micro lesion			
* Lymph Node, Bronchial		Leukemia Mononuclear	
Note: liver xs on slide 17 with tbln is considered artifactual			
[ Leukemia Mononuclear TGLS = 2-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 1-15 ]			
* Spleen		Accessory Spleen	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 243

**TRT#:** 3  
**DOSE:** 75 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41462

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 5-6 ]		Leukemia Mononuclear
* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 4-9 ]		

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 244

TRT#: 3

SEX: Male

DAY ON TEST: 621

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41463

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Liver	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Moderate
* Larynx		Foreign Body	Marked
	Epiglottis	Hyperplasia	Mild
		Inflammation	Suppurative, Moderate
* Lung		Carcinoma	Metastatic (Thyroid Gland)
Lymph Node	Deep Cervical	Carcinoma	Metastatic (Thyroid Gland)
[ Carcinoma TGLS = 4-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Foreign Body	Moderate
	Respirat Epith	Hyperplasia	Minimal
		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 2-3 ]			

PRIMARY CAUSE OF DEATH - Thyroid Gland C Cell Carcinoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 245

TRT#: 3

SEX: Male

DAY ON TEST: 642

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41464

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 246

TRT#: 3

SEX: Male

DAY ON TEST: 509

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41465

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule Papilla	Hyperplasia Mineralization Nephropathy	Minimal Minimal Chronic, Marked
* Liver		Hepatodiaphragmatic Nodule Vacuolization Cytoplasmic	Marked Marked
[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Marked
[ Hyperplasia TGLS = 2-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Testes	Germinal Epith	Atrophy	Marked

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 247

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41466

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
		Necrosis	Mild
Mesentery			
[ Necrosis TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Angiectasis	Marked
[ Angiectasis TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Mild
* Preputial Gland		Hyperplasia	Moderate
[ Hyperplasia TGLS = 2-9 ]			
* Skin		Cyst Epithelial Inclusion	
[ Cyst Epithelial Inclusion TGLS = 1-15 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5,6-9 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 247

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41466

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 248

TRT#: 3

DOSE: 75 PPM

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 729

HISTO: 41467

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Complex	
[ Pheochromocytoma Complex TGLS = 3-15 ]			
* Kidney		Nephropathy	Chronic, Marked
* Liver		Leukemia Mononuclear	
* Lung	Interstitialium	Fibrosis	Mild
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-16 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 2-14 ]			
[ Necrosis TGLS = 2-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 249

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41468

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 4-6 ]			
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,3-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 250

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41469

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Parathyroid Gland
* Zymbal's Gland			

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Angiectasis	Marked
[ Angiectasis TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-9 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 401

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41320

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 2-14 ]			
[ Leukemia Mononuclear TGLS = 2,3,4,6-14+15+16+17 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 401

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730  
**HISTO:** 41320

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 402

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 656

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41321

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney	Papilla	Mineralization Nephropathy	Mild Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular Inflammation	Histiocyte, Minimal Chronic, Minimal
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-15 ]			
Mesentery		Necrosis	Minimal
[ Necrosis TGLS = 7-19 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation Adenoma	Hyaline, Moderate Minimal
* Pituitary Gland			
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Preputial Gland		Hyperplasia Inflammation	Marked Suppurative, Marked
[ Inflammation TGLS = 1,2-17+18+16 ]			
* Prostate		Inflammation	Suppurative, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 402	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 656
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41321

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 4-14 ]		Leukemia Mononuclear
* Testes [ Adenoma TGLS = 5-9 ]	Bilateral, Interstit Cell	Adenoma

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 403

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41322

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Mild
* Kidney	Cortex, Renal Tubule Papilla	Hyperplasia Mineralization Nephropathy	Mild Mild Chronic, Marked
* Liver		Hepatodiaphragmatic Nodule	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 4-6 ]		
* Lung		Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
Pleura		Inflammation	Chronic, Minimal
	[ Inflammation TGLS = 3-14 ]		
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-9 ]		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 404

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41323

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Pelvis, Transit Epithe Papilla	Hyperplasia Mineralization Nephropathy	Minimal Mild Chronic, Moderate
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear Hemorrhage	
* Lung			Mild
[ Hemorrhage TGLS = 4,5,6-4+5 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 404

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41323

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 405

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41324

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Moderate
* Kidney	Papilla	Pheochromocytoma Benign	
		Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 2,3-15+9 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 405

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730  
**HISTO:** 41324

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-9 ]

\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 406

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41325

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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney	Cortex, Renal Tubule	Hyperplasia	Mild
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
* Lung			
Note: tgl 4 no corresponding micro lesion.			
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Mild
* Pituitary Gland		Hyperplasia	Marked
* Prostate		Inflammation	Suppurative, Minimal
* Skin	Subcut Tiss	Fibroma	
		Hyperkeratosis	Marked
[ Fibroma TGLS = 1-17 ]			
[ Hyperkeratosis TGLS = 3-14 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 406

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41325

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-9 ]	Germinal Epith	Atrophy	Marked
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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 407

TRT#: 5

SEX: Male

DAY ON TEST: 509

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41326

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule Cortex, Renal Tubule	Accumulation, Hyaline Droplet Necrosis Nephropathy	Mild Moderate Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Hyperplasia	Marked
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Testes	Interstit Cell Germinal Epith Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Moderate

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 408	<b>TRT#:</b> 5 <b>DOSE:</b> 300 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 684 <b>HISTO:</b> 41327
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Respirat Epith	Foreign Body Hyperplasia Inflammation	Moderate Moderate Suppurative, Moderate
* Pancreas	Acinus	Atrophy	Marked
* Pituitary Gland		Hyperplasia	Marked
	[ Hyperplasia TGLS = 7-10 ]		
* Spleen		Accessory Spleen Leukemia Mononuclear	
	[ Accessory Spleen TGLS = 5-16 ]		
	[ Leukemia Mononuclear TGLS = 4-16 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 3-9 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 409

TRT#: 5

DOSE: 300 PPM

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 565

HISTO: 41328

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy Leukemia Mononuclear	Marked Minimal Chronic, Moderate
* Liver			
[ Leukemia Mononuclear TGLS = 6-6 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 5-16 ]			
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia Inflammation	Hyaline, Moderate Mild Suppurative, Moderate
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear Necrosis	Moderate
[ Leukemia Mononuclear TGLS = 3-14 ]			
[ Necrosis TGLS = 4-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 409

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 565

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41328

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1,2-9 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 410

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 690

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41329

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Larynx	* Lymph Node, Mediastinal	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum			

**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
* Intestine Large, Cecum		Hemorrhage	Marked
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 4-16 ]			
[ Leukemia Mononuclear TGLS = 4-16 ]			
* Islets, Pancreatic		Hyperplasia	Marked
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5,6-4+5+14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 1-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Preputial Gland		Hyperplasia	Marked

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 410	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 690
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Natural Death	<b>HISTO:</b> 41329

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Prostate		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	
		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

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**PRIMARY CAUSE OF DEATH** - Intestine Large, Cecum Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 411

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Moderate
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Larynx		Foreign Body	Marked
* Liver		Clear Cell Focus	
[ Clear Cell Focus TGLS = 5-14 ]			
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Hyperkeratosis	Moderate
[ Hyperkeratosis TGLS = 4-16 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 2-9 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 411

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41330

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**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Atrophy TGLS = 3-9 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 412

TRT#: 5

SEX: Male

DAY ON TEST: 656

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41331

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-6 ]	
* Lung		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5,6-4+5+14 ]	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 4-3 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Hyperplasia	Mild
		Inflammation	Suppurative, Moderate
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
		[ Fibrosis TGLS = 7-15 ]	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 412	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 656
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41331

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 2-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 413

TRT#: 5

SEX: Male

DAY ON TEST: 561

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41332

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Liver	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Epididymis		Mesothelioma Malignant	
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Lung		Inflammation	Suppurative, Marked
[ Inflammation TGLS = 5,6-4+5 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Mild
Skeletal Muscle		Carcinoma	Metastatic (Thyroid Gland)
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 2-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Malignant	
[ Adenoma TGLS = 4-9 ]			
[ Mesothelioma Malignant TGLS = 7-16+9 ]			
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 1-14 ]			

PRIMARY CAUSE OF DEATH - Thyroid Gland C Cell Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 413

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 561

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41332

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Lung Inflammation

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 414

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 634

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41333

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Moderate
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Liver		Necrosis	Marked
[ Necrosis TGLS = 4-6+15 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
* Skin			
Note: tgl 5 no corresponding micro lesion.			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

- UNCERTAIN

CONTRIBUTORY CAUSE OF DEATH

- Liver Necrosis

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 415

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 565

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41334

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Zymbal's Gland

**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy	Marked Minimal Chronic, Moderate
* Liver		Hepatodiaphragmatic Nodule Leukemia Mononuclear	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 3-14 ] [ Leukemia Mononuclear TGLS = 4-6 ]		
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-16 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-18 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Leukemia Mononuclear	
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2,6-15+17 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 415	<b>TRT#:</b> 5 <b>DOSE:</b> 300 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 565 <b>HISTO:</b> 41334
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-9 ]

* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 416

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 590

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41335

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Epididymis		Mesothelioma Malignant	
* Heart			
Note: tgl 4 no corresponding micro lesion.			
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Marked
* Liver		Necrosis	Marked
[ Necrosis TGLS = 3-6 ]			
* Lung	Artery	Thrombosis	Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
Peritoneum		Mesothelioma Malignant	
[ Mesothelioma Malignant TGLS = 2,5,6,7-15+14+16+17 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Malignant	

**PRIMARY CAUSE OF DEATH** - Lung Artery Thrombosis

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 417

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 605  
**HISTO:** 41336

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Brain		Compression	
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Liver		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Testes	Germinal Epith	Atrophy	Mild
	Bilateral, Interstit Cell	Hyperplasia	Moderate

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 418

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 9

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41337

**ORGAN AND ACCOUNTABLE SITE STATUS**

**MISSING**

\* Lymph Node, Bronchial

\* Lymph Node, Mandibular

**AUTO PRECLUDES DIAG.**

\* Adrenal Cortex

\* 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

\* Larynx

\* Liver

\* Lung

\* Lymph Node, Mediastinal

\* Lymph Node, Mesenteric

\* Mammary Gland

\* Nose

\* Pancreas

\* Parathyroid Gland

\* Pituitary Gland

Pleura

\* Preputial Gland

\* Prostate

\* Salivary Glands

\* Seminal Vesicle

\* Skin

\* Spleen

\* Stomach, Forestomach

\* Stomach, Glandular

\* Testes

\* Thymus

\* Thyroid Gland

\* Trachea

\* Urinary Bladder

\* Zymbal's Gland

**PRIMARY CAUSE OF DEATH**

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 419

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 611

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41338

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* Bone	* Bone Marrow
* Brain	Coagulating Gland	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Skin	* Stomach, Forestomach	* Trachea	* Zymbal's Gland

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Heart		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-15 ]			
* Intestine Small, Ileum	Peyers Patch	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 20-22 ]			
* Kidney		Leukemia Mononuclear	
	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Mild
[ Leukemia Mononuclear TGLS = 8-7 ]			
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 7-16 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-5 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 19-6 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 14-18 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-19 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 419

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 611  
**HISTO:** 41338

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-10 ]			
* Seminal Vesicle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 17-20 ]			
Skeletal Muscle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 21-23 ]			
* Spleen		Fibrosis	Moderate
[ Fibrosis TGLS = 6-17 ]			
[ Leukemia Mononuclear TGLS = 5-6 ]			
* Stom Forestom			
Note: tgl 18 no corresponding micro lesion			
* Stomach, Glandular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 12-21 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4,15-9 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild
[ Leukemia Mononuclear TGLS = 16-10 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear  
 CONTRIBUTORY CAUSE OF DEATH - Heart Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 420

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 593

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41339

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Pancreatic	Hemorrhage	Marked
[ Hemorrhage TGLS = 6-17 ]			
* Lymph Node, Bronchial		Hemorrhage	Marked
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 3-15 ]			
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 1-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 420

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 593  
**HISTO:** 41339

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 5-9 ]			

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 421

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41340

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Brain		Compression	
		Gliosis	Moderate
		Hemorrhage	Moderate
* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLS = 4-14 ]			
* Kidney	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
		Hemorrhage	Marked
[ Adenoma TGLS = 2-10 ]			
[ Hemorrhage TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Hyperkeratosis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 421

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41340

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperkeratosis TGLS = 3-15 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 1-9 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 422

TRT#: 5

SEX: Male

DAY ON TEST: 550

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41341

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy Pigmentation Leukemia Mononuclear	Moderate Minimal Chronic, Mild Mild
* Liver			
[ Leukemia Mononuclear TGLS = 1-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Spleen		Leukemia Mononuclear Necrosis	Marked
[ Leukemia Mononuclear TGLS = 3-14 ]			
[ Necrosis TGLS = 4,5-15+16 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-17 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 422

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 550

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41341

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 423

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 709

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41342

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart	Atrium	Thrombosis	Moderate
[ Thrombosis TGLS = 11-15 ]			
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 4-6 ]			
[ Necrosis TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
Penis		Necrosis	Marked
[ Necrosis TGLS = 2-17 ]			
* Pituitary Gland		Adenoma	
* Skin		Hyperkeratosis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 423	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 709
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Natural Death	<b>HISTO:</b> 41342

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Hyperkeratosis TGLS = 1-20 ] [ Ulcer TGLS = 2-17 ]	Prepuce	Ulcer	Marked
* Spleen		Accessory Spleen Fibrosis Leukemia Mononuclear	Moderate
[ Accessory Spleen TGLS = 7-16 ] [ Fibrosis TGLS = 6-16 ] [ Leukemia Mononuclear TGLS = 5-16 ]			
* Stomach, Forestomach [ Ulcer TGLS = 9-10 ]		Ulcer	Marked
* Stomach, Glandular [ Erosion TGLS = 12-19 ]		Erosion	Moderate
* Testes	Interstit Cell Germinal Epith Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Moderate
[ Atrophy TGLS = 8-9 ]			

PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Liver Necrosis;Stomach;Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 424

TRT#: 5

SEX: Male

DAY ON TEST: 509

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41343

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Hemorrhage	Marked
[ Hemorrhage TGLS = 2-1 ]			
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Lung		Carcinoma	Metastatic (Thyroid Gland)
		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-15 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Inflammation	Suppurative, Mild
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	
		Necrosis	Moderate
[ Leukemia Mononuclear TGLS = 3-15 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 424	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 509
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41343

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Necrosis TGLS = 4-16 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-20 ]			
* Stomach, Glandular		Erosion	Moderate
[ Erosion TGLS = 8-19 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Minimal
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 1-3 ]			

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PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Brain	Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 425

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41344

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Epididymis		Mesothelioma Malignant	
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Mild
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Marked
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Interstitialium	Fibrosis	Minimal
	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
		Inflammation	Suppurative, Minimal
Peritoneum		Mesothelioma Malignant	
	[ Mesothelioma Malignant TGLS = 2,3,4,5-17+16+15+18+4 ]		
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Malignant	
	[ Adenoma TGLS = 4-15 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 425

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730  
**HISTO:** 41344

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 426

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 652

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41345

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Islets, Pancreatic	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Mild
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Moderate
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 6-14 ]		
* Lung		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-4+5 ]		
Mesentery		Necrosis	Moderate
	[ Necrosis TGLS = 4-16 ]		
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
* Prostate		Inflammation	Suppurative, Minimal
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-15 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 426

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Natural Death

**DAY ON TEST:** 652  
**HISTO:** 41345

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-9 ]

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**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 427

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41346

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	Coagulating Gland	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Kidney	Pelvis, Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 3-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
* Prostate		Inflammation	Suppurative, Mild
* Stom Forestom			
	Note: tgl 4 no corresponding microscopic lesion.		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-9 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:38

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 428

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 619

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41347

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

\* Lymph Node, Mandibular

**AUTO PRECLUDES DIAG.**

\* Intestine Small, Jejunum

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 6-15 ]		
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-17 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-14 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-18 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
		Foreign Body	Moderate
	Respirat Epith	Hyperplasia	Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 428	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 619
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41347

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 3-16 ]		Leukemia Mononuclear	
* Stomach, Forestomach [ Necrosis TGLS = 7-19+20 ]		Necrosis	Minimal
* Stomach, Glandular [ Leukemia Mononuclear TGLS = 8-20 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 2-9 ]	Interstit Cell Germinal Epith	Adenoma Atrophy	Mild

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 429

TRT#: 5

SEX: Male

DAY ON TEST: 670

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41348

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Papilla	Mineralization	Mild
		Nephropathy	Chronic, Marked
			[ Nephropathy TGLS = 3-7 ]
* Liver		Vacuolization Cytoplasmic	Marked
Mesentery		Necrosis	Moderate
			[ Necrosis TGLS = 2-14 ]
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Moderate
	Goblet Cell	Dilatation	Mild
	Respirat Epith	Hyperplasia	Moderate
		Hyperplasia	Mild
		Inflammation	Suppurative, Moderate
	Respirat Epith	Metaplasia	Squamous, Mild
* Pituitary Gland		Adenoma	
			[ Adenoma TGLS = 1-10 ]
* Prostate		Inflammation	Suppurative, Marked
* Stomach, Forestomach		Ulcer	Marked
			[ Ulcer TGLS = 4-10+16 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 429	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 670
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41348

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Germinal Epith	Atrophy	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Kidney Nephropathy;Stomach;Forestomach Ulcer

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 430

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41349

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla	Bilateral	Pheochromocytoma Benign Thrombosis	Marked
* Kidney	Cortex, Renal Tubule Papilla	Adenoma Mineralization Nephropathy	Mild Chronic, Marked
* Liver	Hepatocyte	Basophilic Focus Hepatocellular Adenoma Leukemia Mononuclear Regeneration	Marked
	[ Leukemia Mononuclear TGLS = 2-6+15 ]		
	[ Regeneration TGLS = 2-6+15 ]		
* Lung	Alveolar Epith	Hyperplasia Leukemia Mononuclear	Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-14 ]		
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 430	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41349

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-9 ]

[ Atrophy TGLS = 4-9 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 431

TRT#: 5

SEX: Male

DAY ON TEST: 681

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41350

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	* 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	* Larynx
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Mineralization	Mild
Note: bone in adrenal cortex.			
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Inflammation	Suppurative, Focal, Marked
		Leukemia Mononuclear	
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
	Cortex, Renal Tubule	Adenoma	
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
[ Adenoma TGLS = 10-19 ]			
[ Nephropathy TGLS = 9-18 ]			
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 12-14 ]			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	Thoracic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-23 ]			
[ Leukemia Mononuclear TGLS = 4-17 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:38

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 431

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 681

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41350

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 2-24 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-20 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 8-25 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 5-15 ]			
[ Necrosis TGLS = 6-16 ]			
* Stom Gland			
Note: tgl 14 no corresponding micro lesion.			
* Stomach, Forestomach		Hyperplasia	Squamous, Mild
[ Hyperplasia TGLS = 13-21 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 7-9 ]			

**PRIMARY CAUSE OF DEATH**

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 432

TRT#: 5

SEX: Male

DAY ON TEST: 697

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41351

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Liver	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney	Cortex, Renal Tubule Papilla	Hyperplasia Mineralization Nephropathy Inflammation	Minimal Mild Chronic, Marked Suppurative, Minimal
* Larynx		Alveolar/Bronchiolar Adenoma Alveolar/Bronchiolar Carcinoma	
	[ Alveolar/Bronchiolar Adenoma TGLS = 3-5 ] [ Alveolar/Bronchiolar Carcinoma TGLS = 2-4 ]		
* Nose	Olfactory Epi	Degeneration Adenoma	Hyaline, Moderate
* Pituitary Gland			
	[ Adenoma TGLS = 1-10 ]		
* Skin	Subcut Tiss	Fibroma	
	[ Fibroma TGLS = 4-14+15 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 5-9 ]		

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 433

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41352

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Papilla	Mineralization Nephropathy Basophilic Focus Clear Cell Focus Leukemia Mononuclear Leukemia Mononuclear	Mild Chronic, Moderate
* Liver			
Lymph Node [ Leukemia Mononuclear TGLS = 5-18 ]	Pancreatic		
* Nose	Olfactory Epi	Degeneration Inflammation	Hyaline, Marked Suppurative, Mild
* Skin	Subcut Tiss	Hyperkeratosis Lipoma	Moderate
[ Hyperkeratosis TGLS = 6-14 ] [ Lipoma TGLS = 1-17 ]			
* Spleen [ Leukemia Mononuclear TGLS = 3-15 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 2,4-9 ]	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 433

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41352

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Tongue [ Hyperplasia TGLS = 7-19 ]	Epithelium	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 434

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 361

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41353

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Heart			
Note: tgl 4 no corresponding micro lesion.			
* Kidney	Papilla	Mineralization Nephropathy Leukemia Mononuclear	Mild Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-16 ]			
* Nose	Olfactory Epi	Degeneration Hyperplasia	Hyaline, Moderate Moderate
* Preputial Gland			
[ Hyperplasia TGLS = 5-9 ]			
* Skin		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear  
**CONTRIBUTORY CAUSE OF DEATH** - Skin Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 435

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 646

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41354

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule	Hyperplasia Nephropathy	Moderate Chronic, Marked
* Liver		Vacuolization Cytoplasmic	Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Stomach, Forestomach		Ulcer	Marked
[ Ulcer TGLS = 4-15 ]			
* Stomach, Glandular		Ulcer	Marked
[ Ulcer TGLS = 5-15 ]			
* Testes	Germinal Epith Interstit Cell	Atrophy Hyperplasia	Mild Moderate
Tongue	Epithelium	Hyperplasia	Moderate
[ Hyperplasia TGLS = 3-14 ]			

PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Stomach;Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 436

TRT#: 5

SEX: Male

DAY ON TEST: 696

DOSE: 300 PPM

DISP: Natural Death

HISTO: 41355

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Liver	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	Pleura	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

\* Parathyroid Gland

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx
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**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Foreign Body	Moderate
		Inflammation	Suppurative, Minimal
* Pituitary Gland		Hemorrhage	Marked
* Preputial Gland		Inflammation	Suppurative, Marked
* Testes	Germinal Epith	Atrophy	Mild
	Interstitial Cell	Hyperplasia	Moderate
* Thyroid Gland	C Cell	Adenoma	

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 437

TRT#: 5

SEX: Male

DAY ON TEST: 729

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41356

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet Nephropathy	Mild Chronic, Moderate
* Liver		Basophilic Focus Clear Cell Focus Hepatodiaphragmatic Nodule	Marked
		[ Clear Cell Focus TGLS = 5-15 ] [ Hepatodiaphragmatic Nodule TGLS = 6-16 ]	
Lymph Node	Renal	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 2-18 ]	
* Mammary Gland		Galactoceles	Marked
		[ Galactoceles TGLS = 1-17 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 3-10 ]	
* Prostate		Inflammation	Suppurative, Moderate
* Skin		Cyst Epithelial Inclusion	Marked
		[ Cyst Epithelial Inclusion TGLS = 4-14 ]	
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 437

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41356

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Germinal Epith

Atrophy

Marked

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 438

TRT#: 5

SEX: Male

DAY ON TEST: 550

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41357

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Nephropathy	Chronic, Moderate
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
Note: tgl 2 no corresponding microscopic lesion.		
* Lung	Leukemia Mononuclear	
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Prostate	Inflammation	Suppurative, Mild
* Spleen	Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 439

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41358

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis, Transit Epithe	Hyperplasia Nephropathy	Minimal Chronic, Marked
[ Nephropathy TGLS = 3-7 ]			
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular	Mild Histocyte, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:38

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 440

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41359

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Preputial Gland		Inflammation	Suppurative, Marked
* Prostate		Inflammation	Suppurative, Mild
* Skin		Hyperkeratosis	Marked
[ Hyperkeratosis TGLS = 4-14 ]			
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 440

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41359

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 441

TRT#: 5

SEX: Male

DAY ON TEST: 642

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41360

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Mild
* Islets, Pancreatic		Adenoma	
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
Note: tgl 4 no corresponding micro lesion.			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-16 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 441

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 642  
**HISTO:** 41360

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Germinal Epith	Atrophy	Minimal
PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 442

TRT#: 5

SEX: Male

DAY ON TEST: 646

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41361

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Mild
* Larynx	Epiglottis	Hyperplasia	Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
* Pituitary Gland		Angiectasis	Minimal
[ Angiectasis TGLS = 6-10 ]			
* Spleen		Hemorrhage	Marked
		Leukemia Mononuclear	
		Necrosis	Marked
[ Hemorrhage TGLS = 8-16 ]			
[ Leukemia Mononuclear TGLS = 5-14 ]			
[ Necrosis TGLS = 7-15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 442

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 646  
**HISTO:** 41361

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 1-9 ]		

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 443

TRT#: 5

DOSE: 300 PPM

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 729

HISTO: 41362

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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	* Larynx
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Mild
* Pituitary Gland		Hyperplasia	Moderate
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			
* Trachea	Glands	Cyst	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 444	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 431
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Natural Death	<b>HISTO:</b> 41363

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

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**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Colon	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Brain		Hemorrhage	Mild
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 3-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Spleen		Accessory Spleen	
[ Accessory Spleen TGLS = 2-14 ]			
* Testes	Interstit Cell	Adenoma	

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<b>PRIMARY CAUSE OF DEATH</b>	- Pituitary Gland Adenoma
<b>CONTRIBUTORY CAUSE OF DEATH</b>	- Brain Hemorrhage

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 445

TRT#: 5

SEX: Male

DAY ON TEST: 621

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41364

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Papilla	Mineralization Nephropathy	Minimal Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node		Leukemia Mononuclear	
Note: Hepatic LN site not available.			
[ Leukemia Mononuclear TGLS = 6-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 5-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	Marked
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:38  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 445	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 621
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41364

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 4-15 ]

[ Leukemia Mononuclear TGLS = 3-14 ]

* Testes	Germinal Epith	Atrophy	Minimal
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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:38

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 446

TRT#: 5

DOSE: 300 PPM

SEX: Male

DISP: Natural Death

DAY ON TEST: 716

HISTO: 41365

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Hyperplasia Nephropathy	Moderate Chronic, Marked
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Lung	Interstitium Alveolar Epith Alveolus	Fibrosis Hyperplasia Infiltration Cellular Inflammation Leukemia Mononuclear	Moderate Mild Histiocyte, Mild Chronic, Mild
[ Fibrosis TGLS = 6-14 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-16 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Preputial Gland		Inflammation	Suppurative, Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 446	<b>TRT#:</b> 5 <b>DOSE:</b> 300 PPM	<b>SEX:</b> Male <b>DISP:</b> Natural Death	<b>DAY ON TEST:</b> 716 <b>HISTO:</b> 41365
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Inflammation TGLS = 8-9 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 1-18 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 7-6 ]			
[ Leukemia Mononuclear TGLS = 3-15 ]			
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
[ Adenoma TGLS = 4-9 ]			
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 447

TRT#: 5

SEX: Male

DAY ON TEST: 537

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41366

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Glandular	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Heart			
Note: tgl 4 no corresponding micro lesion.			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-19 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Accessory Spleen	
[ Accessory Spleen TGLS = 3-16 ]			
[ Leukemia Mononuclear TGLS = 2-15 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Mild
[ Hyperplasia TGLS = 8-18 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-9 ]			
Tongue	Epithelium	Hyperplasia	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 447

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 537

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41366

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 1-14 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 448

TRT#: 5

SEX: Male

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41367

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Papilla	Mineralization Nephropathy	Minimal Chronic, Moderate
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
* Lung	Interstitialium Alveolar Epith Alveolus	Fibrosis Hyperplasia Infiltration Cellular Inflammation Fibroadenoma	Mild Mild Histiocyte, Mild Chronic, Mild
* Mammary Gland [ Fibroadenoma TGLS = 1-16 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation Adenoma	Hyaline, Marked Mild
* Pituitary Gland [ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 3-9 ]	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

---

**ANIMAL ID:** 448

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41367

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 449

TRT#: 5

SEX: Male

DAY ON TEST: 718

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41368

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Benign	Moderate
* Brain		Hemorrhage	Moderate
* Kidney	Cortex, Renal Tubule Pelvis, Transit Epithe Papilla	Hyperplasia Hyperplasia Mineralization Nephropathy	Marked Mild Minimal Chronic, Marked
* Liver		Hepatodiaphragmatic Nodule Leukemia Mononuclear	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 7-15 ]		
* Lung	Interstitium Alveolus	Fibrosis Infiltration Cellular Inflammation	Mild Histiocyte, Moderate Chronic, Mild
* Mammary Gland		Galactocele	Marked
	[ Galactocele TGLS = 2,3,8-16+18+19 ]		
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 5-10 ]		
Pleura		Inflammation	Chronic, Mild
* Prostate		Inflammation	Suppurative, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 449	<b>TRT#:</b> 5 <b>DOSE:</b> 300 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 718 <b>HISTO:</b> 41368
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Skin [ Cyst Epithelial Inclusion TGLS = 1-17 ]		Cyst Epithelial Inclusion	Marked
* Spleen		Leukemia Mononuclear	
* Testes	Germinal Epith	Atrophy	Marked
* Thyroid Gland [ Carcinoma TGLS = 4-3 ]	C Cell	Carcinoma	

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PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Brain Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 450

**TRT#:** 5  
**DOSE:** 300 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 722  
**HISTO:** 41369

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* 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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Thymus	* Thyroid Gland	* Trachea	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
Blood Vessel	Pulmn Artery	Degeneration	Mucoid, Marked
* Bone	Vertebra	Chordoma	
[ Chordoma TGLS = 9-14+19 ]			
* Eye	Antr Chamber	Inflammation	Suppurative, Moderate
	Cornea	Inflammation	Suppurative, Mild
[ Inflammation TGLS = 2,3-13 ]			
[ Inflammation TGLS = 2,3-13 ]			
* Kidney	Cortex, Renal Tubule	Adenoma	Multiple
	Cortex, Renal Tubule	Hyperplasia	Marked
	Pelvis, Transit Epithe	Hyperplasia	Mild
	Pelvis	Inflammation	Suppurative, Mild
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 7-7 ]			
* Liver	Bile Duct	Dilatation	Marked
[ Dilatation TGLS = 5-15 ]			
* Lung	Artery	Mineralization	Marked
* Lymph Node, Mediastinal		Angiectasis	Marked
[ Angiectasis TGLS = 10-3 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 450	<b>TRT#:</b> 5 <b>DOSE:</b> 300 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 722 <b>HISTO:</b> 41369
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**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Glands	Degeneration Dilatation Adenoma	Hyaline, Marked Mild
* Pituitary Gland [ Adenoma TGLS = 4-10 ]			
* Prostate [ Inflammation TGLS = 8-17 ]		Inflammation	Suppurative, Marked
* Spleen [ Fibrosis TGLS = 6-6 ]		Fibrosis	Marked
* Stomach, Glandular [ Erosion TGLS = 11-18 ]		Erosion Mineralization	Marked Mild
* Testes	Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
Urethra	Transit Epithe	Hyperplasia	Marked
* Urinary Bladder	Transit Epithe	Hyperplasia	Marked

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PRIMARY CAUSE OF DEATH	- Bone Vertebra Chordoma
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Adenoma;Stomach;Glandular Erosion

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 601

TRT#: 7

DOSE: 1200 PPM

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 648

HISTO: 41220

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
Note: Numbers of hyaline droplets do not exceed those in control of same age; compare with um15.			
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 6-15 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5-4 ]	
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Mild
		Dilatation	Minimal
Note: Hyaline droplets in olfactory epithelium in xs2 and 3			
* Skin		Inflammation	Granulomatous, Moderate
		Ulcer	Moderate
		[ Inflammation TGLS = 1-16 ]	
		[ Ulcer TGLS = 1-16 ]	
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 601	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 648
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41220

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 3,4-14 ]		
* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 2-9 ]		

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 602

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 666

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41221

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mediastinal	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Heart		Cardiomyopathy	Mild
* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy	Moderate Minimal Chronic, Moderate
Note: Moderate hyaline droplets, compared to untreated rat same age with MCL.			
* Liver		Basophilic Focus Leukemia Mononuclear Inflammation	Chronic, Minimal
* Lung			
Lymph Node	Deep Cervical Pancreatic	Leukemia Mononuclear Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-15 ]		
	[ Leukemia Mononuclear TGLS = 7-16 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-4 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 8-8 ]		
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Mild Minimal
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 602	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 666
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41221

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 1-14 ]			
* Spleen		Hemorrhage	Marked
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 5-17 ]			
[ Leukemia Mononuclear TGLS = 6-17 ]			
* Testes	Interstit Cell	Hyperplasia	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 603

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 655

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41222

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Islets, Pancreatic		Hyperplasia	Marked
* Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 4-7 ]			
* Liver		Hepatocellular Adenoma	
		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Minimal
* Skin	Subcut Tiss	Fibroma	
		Ulcer	Marked
[ Fibroma TGLS = 1-14+15 ]			
[ Ulcer TGLS = 1-14+15 ]			
* Spleen		Hemorrhage	Marked
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 3-16 ]			
[ Leukemia Mononuclear TGLS = 3-16 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 603

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 655

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41222

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Adenoma TGLS = 2-9 ]

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 604

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41223

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Liver	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Goblet Cell	Hyperplasia	Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 605

TRT#: 7

SEX: Male

DAY ON TEST: 598

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41224

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy	Minimal Minimal Chronic, Mild
* Liver		Hepatodiaphragmatic Nodule Leukemia Mononuclear	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 4-15 ]		
* Lung	Alveolar Epith	Hyperplasia Leukemia Mononuclear	Marked
	Alveolar Epith	Metaplasia Leukemia Mononuclear	Squamous, Marked
* Lymph Node, Mediastinal			
	[ Leukemia Mononuclear TGLS = 1-3 ]		
Mesentery		Necrosis	Moderate
	[ Necrosis TGLS = 3-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Atrophy	Marked
* Spleen		Leukemia Mononuclear	
* Stomach, Forestomach		Ulcer	Marked
	[ Ulcer TGLS = 5-17 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 605	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 598
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41224

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate
[ Atrophy TGLS = 2-9 ]			

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PRIMARY CAUSE OF DEATH	- Stomach, Forestomach	Ulcer
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland	Atrophy

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 606

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 635

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41225

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule	Hyperplasia	Minimal
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Larynx		Inflammation	Chronic, Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Marked
[ Degeneration TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Germinal Epith	Atrophy	Minimal

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 607

TRT#: 7

SEX: Male

DAY ON TEST: 656

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41226

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Eye [ Atrophy TGLS = 1-13 ]		Atrophy	Marked
* Kidney	Papilla	Mineralization Nephropathy	Minimal Chronic, Mild
* Liver		Leukemia Mononuclear	
* Lung	Interstitium	Fibrosis	Mild
	Alveolar Epith	Metaplasia	Squamous, Moderate
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-15 ]			
[ Leukemia Mononuclear TGLS = 8-16 ]			
* Mammary Gland [ Fibroadenoma TGLS = 2-14 ]		Fibroadenoma	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Preputial Gland [ Carcinoma TGLS = 4-19 ]		Carcinoma	
* Spleen [ Leukemia Mononuclear TGLS = 7-17 ]		Leukemia Mononuclear	
* Stomach, Forestomach		Hyperplasia	Squamous, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 607

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 656

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41226

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 9-21 ]

\* Testes

Interstit Cell

Adenoma

Germinal Epith

Atrophy

Marked

[ Adenoma TGLS = 5-18 ]

[ Atrophy TGLS = 6-9 ]

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 608

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 639

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41227

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Liver
* Lung	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**OBSERVATIONS**

* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Prostate		Inflammation	Suppurative, Mild
Skeletal Muscle		Sarcoma	Metastatic (Skin)
[ Sarcoma TGLS = 3-14+15 ]			
* Skin	Subcut Tiss	Sarcoma	
[ Sarcoma TGLS = 3-14+15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH** - Skin Subcut Tiss Sarcoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 609

TRT#: 7

SEX: Male

DAY ON TEST: 582

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41228

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Papilla	Mineralization Nephropathy Leukemia Mononuclear	Minimal Chronic, Moderate
* Liver			
[ Leukemia Mononuclear TGLS = 6-6 ]			
* Lung		Leukemia Mononuclear	
Note: tgl 1 no corresponding micro lesion			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Hemorrhage Leukemia Mononuclear	Marked
[ Hemorrhage TGLS = 5-16 ]			
[ Leukemia Mononuclear TGLS = 4-15+16 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-9 ]			
* Thyroid Gland	Follicular Cel	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 609

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 582

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41228

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Urinary Bladder

Transit Epithe

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Spleen Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 610

TRT#: 7

SEX: Male

DAY ON TEST: 631

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41229

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Brain		Compression	Marked
* Kidney	Pelvis, Transit Epithe Papilla	Hyperplasia Mineralization Nephropathy	Minimal Minimal Chronic, Marked
[ Nephropathy TGLS = 4-7 ]			
* Liver		Basophilic Focus	
* Lymph Node, Bronchial		Hyperplasia	Lymphoid, Moderate
[ Hyperplasia TGLS = 2-4 ]			
* Nose	Olfactory Epi Glands Goblet Cell	Degeneration Dilatation Hyperplasia Adenoma	Hyaline, Marked Minimal Mild
* Pituitary Gland			
[ Adenoma TGLS = 3-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 611

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41230

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney	Cortex, Renal Tubule	Adenoma	
	Cortex, Renal Tubule	Hyperplasia	Marked
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Liver		Clear Cell Focus	
		Hepatocellular Adenoma	
	[ Hepatocellular Adenoma TGLS = 5-16 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Glands	Dilatation	Moderate
	Goblet Cell	Hyperplasia	Moderate
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Basal Cell Adenoma	
	[ Basal Cell Adenoma TGLS = 1,3-14+15 ]		
* Stom Gland			
	Note: tgl 6 no corresponding micro lesion.		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 611

**TRT#:** 7  
**DOSE:** 1200 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 41230

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
[ Adenoma TGLS = 2-9 ]			
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 4-3 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 612

TRT#: 7

SEX: Male

DAY ON TEST: 725

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41231

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Thyroid Gland
* Trachea	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 4-7 ]			
* Eye	Antr Chamber, Cornea	Inflammation	Suppurative, Moderate
[ Inflammation TGLS = 1-13 ]			
* Kidney	Cortex, Renal Tubule	Hyperplasia	Mild
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 5-7 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Moderate
* Stomach, Glandular		Necrosis	Moderate
[ Necrosis TGLS = 6-15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 612	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 725
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41231

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes [ Adenoma TGLS = 3-9 ]	Bilateral, Interstit Cell	Adenoma	
* Urinary Bladder	Transit Epithe	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Kidney Nephropathy		
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Adenoma;Stomach;Glandular Necrosis		

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 613

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41232

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

**MISSING**

* Lymph Node, Bronchial	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy	Moderate Minimal Chronic, Marked
Note: Good example of 2 types of cytoplasmic droplets; larger orange ones are presumed to be from MCL, smaller are hyaline droplets. [ Nephropathy TGLS = 7-7 ]			
* Liver		Basophilic Focus Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6 ]			
* Lung	Alveolus	Infiltration Cellular Leukemia Mononuclear Leukemia Mononuclear	Histiocyte, Minimal
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 613

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41232

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

[ Leukemia Mononuclear TGLS = 4,5-14+15 ]

Leukemia Mononuclear

\* Testes

Bilateral, Interstit Cell

Adenoma

Germinal Epith

Atrophy

Marked

[ Adenoma TGLS = 2-9 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 614

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 254

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41233

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Bone	Cranium	Hemorrhage	Marked
[ Hemorrhage TGLS = 3-14 ]			
* Brain		Hemorrhage	Marked
[ Hemorrhage TGLS = 9-1 ]			
* Kidney	Papilla	Mineralization	Minimal
Note: No evidence of hyaline droplets at 254 days of exposure.			
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Prostate		Hyperplasia	Mild
Skeletal Muscle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2,4,5,6,8-15+16+18+19+20 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 614

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 254

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41233

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 7-21 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 615

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41234

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule Renal Tubule	Accumulation, Hyaline Droplet Carcinoma Nephropathy	Moderate  Chronic, Marked
	[ Carcinoma TGLS = 4-14+15+16 ] [ Nephropathy TGLS = 5-7 ]		
* Liver		Basophilic Focus Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration Inflammation	Hyaline, Moderate Chronic, Minimal
* Pituitary Gland		Adenoma	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-17 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 1,2-9+18 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 616

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41235

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Eye	Antr Chamber, Cornea	Inflammation	Mild
[ Inflammation TGLS = 6-13 ]			
* Heart		Cardiomyopathy	Moderate
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
	Cortex, Renal Tubule	Hyperplasia	Marked
	Pelvis, Transit Epithe	Hyperplasia	Mild
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 5-7+16 ]		Stromal Nephroma	
* Liver		Clear Cell Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Hemorrhage	Marked
	Olfactory Epi	Hyperplasia	Basal Cell, Moderate
	Respirat Epith	Hyperplasia	Moderate
* Pituitary Gland		Hyperplasia	Moderate
[ Hyperplasia TGLS = 2-10 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 616	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41235

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,4-9+17 ]			
* Thyroid Gland	C Cell	Adenoma	
Tooth	Peridont Tiss	Inflammation	Moderate
* Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 1-14+15 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 617

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 724

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41236

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Thymus
* Trachea	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Intestine Small, Duodenum	Epithelium	Hyperplasia	Moderate
[ Hyperplasia TGLS = 9-8 ]			
* Intestine Small, Ileum	Epithelium	Hyperplasia	Moderate
[ Hyperplasia TGLS = 9-8 ]			
* Intestine Small, Jejunum	Epithelium	Hyperplasia	Moderate
[ Hyperplasia TGLS = 9-8 ]			
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Mild
	Pelvis, Transit Epithe	Hyperplasia	Mild
		Nephropathy	Chronic, Marked
Note: cortical tubular proliferation is approx compatible w degree of nephropathy; focus of medullary tubule hyperplasia.			
			[ Nephropathy TGLS = 6-7 ]
* Liver		Cholangiocarcinoma	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
			[ Cholangiocarcinoma TGLS = 5-15+16 ]
			[ Hepatodiaphragmatic Nodule TGLS = 11-17 ]
* Lung		Cholangiocarcinoma	Metastatic (Liver)
			[ Cholangiocarcinoma TGLS = 2-14+4 ]
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 617	<b>TRT#:</b> 7 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 724 <b>HISTO:</b> 41236
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**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 1-3 ]			
Mesentery		Thrombosis	Marked
[ Thrombosis TGLS = 4-18 ]			
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia Adenoma	Hyaline, Mild Mild
* Pituitary Gland			
[ Adenoma TGLS = 7-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Mild
* Skin		Basal Cell Carcinoma	
[ Basal Cell Carcinoma TGLS = 8-19 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Mild
[ Fibrosis TGLS = 10-20 ]			
* Stomach, Glandular	Epithelium	Hyperplasia	Minimal
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
[ Atrophy TGLS = 3-9 ]			
* Thyroid Gland	C Cell	Adenoma	
Urethra	Transit Epithe	Hyperplasia Inflammation	Mild Suppurative, Moderate
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Liver Cholangiocarcinoma		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 618

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 681

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41237

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Colon
* Intestine Large, Rectum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Kidney	Papilla	Mineralization Nephropathy Hepatocellular Adenoma	Minimal Chronic, Marked
* Liver	[ Hepatocellular Adenoma TGLS = 4-14 ]		
* Lung		Carcinoma	Metastatic (Thyroid Gland)
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Prostate		Inflammation	Suppurative, Mild
* Testes	Interstit Cell Germinal Epith Interstit Cell	Adenoma Atrophy Hyperplasia	Moderate Moderate
	[ Adenoma TGLS = 2-9 ]		
	[ Atrophy TGLS = 3-9 ]		
* Thyroid Gland	C Cell	Carcinoma	
Note: Autolysis makes determination of cell type difficult, but predominant pattern is sheets of cells with cytoplasmic granules.			
	[ Carcinoma TGLS = 1-3 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 618

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 681

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41237

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Thyroid Gland C Cell Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 619

TRT#: 7

SEX: Male

DAY ON TEST: 648

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41238

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule Papilla	Hyperplasia Mineralization Nephropathy	Moderate Minimal Chronic, Marked
[ Nephropathy TGLS = 3-7 ]			
* Liver		Basophilic Focus Fatty Change	Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia Adenoma	Hyaline, Moderate Minimal
* Pituitary Gland			
[ Adenoma TGLS = 4-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Stomach, Forestomach		Hyperplasia Ulcer	Squamous, Marked Marked
[ Ulcer TGLS = 5-15 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH - Stomach, Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 619

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 648

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41238

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 620

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41239

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Mild
* Brain		Compression	Moderate
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 6-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,7-15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 620

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41239

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-9 ]

[ Atrophy TGLS = 5-9 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 621

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41240

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Heart		Cardiomyopathy	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Marked
	Alveolus	Infiltration Cellular	Histiocyte, Marked
		Leukemia Mononuclear	
[ Infiltration Cellular TGLS = 8,9-16+17 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-8 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Inflammation	Chronic, Mild
* Pituitary Gland		Adenoma	
* Prostate		Inflammation	Suppurative, Minimal
* Skin		Basal Cell Adenoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 621

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41240

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Subcut Tiss	Hemorrhage	Mild
[ Basal Cell Adenoma TGLS = 6-15 ]			
[ Hemorrhage TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-18 ]			
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
[ Adenoma TGLS = 4,10-9 ]			
[ Atrophy TGLS = 5-9 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 622

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41241

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Eye		Carcinoma	Metastatic (Zymbal'S Gland)
[ Carcinoma TGLS = 1-13 ]			
* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy Basophilic Focus	Mild Minimal Chronic, Moderate
* Liver			
* Lung	Interstitium	Fibrosis	Minimal
* Lymph Node, Bronchial		Hyperplasia	Lymphoid, Moderate
[ Hyperplasia TGLS = 6-4 ]			
* Nose	Olfactory Epi Nasolacrim Dct	Degeneration Inflammation	Hyaline, Marked Suppurative, Mild
* Pituitary Gland		Adenoma	
Pleura	Mesothelium	Hyperplasia Inflammation	Minimal Chronic, Mild
[ Inflammation TGLS = 5-17 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin	Subcut Tiss	Schwannoma Benign	
[ Schwannoma Benign TGLS = 3-16 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 622

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41241

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes [ Adenoma TGLS = 4-9 ]	Bilateral, Interstit Cell	Adenoma
* Zymbal's Gland [ Carcinoma TGLS = 2-14+15 ]		Carcinoma

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 623

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 698

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41242

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mesenteric
* Pancreas	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Zymbal's Gland	

**MISSING**

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Parathyroid Gland
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
	Cortex, Renal Tubule	Hyperplasia	Mild
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
Note: Some of tubular disintegration is probly due to autolysis.			
* Liver		Hepatocellular Adenoma	
		Leukemia Mononuclear	
	[ Hepatocellular Adenoma TGLS = 6-16 ]		
	[ Leukemia Mononuclear TGLS = 4,5-6+16+17 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Mammary Gland		Carcinoma	
	[ Carcinoma TGLS = 1-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Foreign Body	Moderate
	Goblet Cell	Hyperplasia	Moderate
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 623	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 698
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Natural Death	<b>HISTO:</b> 41242

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin		Basal Cell Adenoma	
[ Basal Cell Adenoma TGLS = 2-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-18 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 8,9-9 ]			
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 624

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41243

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
	Pelvis, Transit Epithe	Hyperplasia	Mild
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolus	Foreign Body	Mild
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-15 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 5,6-16+17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Goblet Cell	Hyperplasia	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 8-10 ]			
* Skin	Subcut Tiss	Fibroma	
		Hyperkeratosis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 624

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41243

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Fibroma TGLS = 1-14 ]		Inflammation	Granulomatous, Moderate
[ Hyperkeratosis TGLS = 9-18 ]			
[ Inflammation TGLS = 9-18 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4-19 ]			
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 7-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 625

TRT#: 7

SEX: Male

DAY ON TEST: 509

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41244

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                           |
|----------------------------|---------------------------|-----------------------------|---------------------------|
| * Adrenal Cortex           | * 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      | * Larynx                    | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric   | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland       |
| * Pituitary Gland          | Pleura                    | * Preputial Gland           | * Salivary Glands         |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular      |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder         |
| * Zymbal's Gland           |                           |                             |                           |

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- |                                      |   |   |   |
|--------------------------------------|---|---|---|
| * Kidney                             | Cortex, Renal Tubule<br>Pelvis, Transit Epithe<br>Papilla | Accumulation, Hyaline Droplet<br>Hyperplasia<br>Mineralization<br>Nephropathy<br>Leukemia Mononuclear<br>Leukemia Mononuclear<br>Leukemia Mononuclear | Moderate<br>Mild<br>Mild<br>Chronic, Moderate   |
| * Liver                              |   |   |   |
| * Lung                               |   |   |   |
| * Lymph Node, Bronchial              |   |   |   |
| * Nose                               | Olfactory Epi<br>Goblet Cell                              | Degeneration<br>Hyperplasia<br>Inflammation<br>Leukemia Mononuclear   | Hyaline, Marked<br>Mild<br>Suppurative, Minimal |
| * Prostate                           |   |   |   |
| * Spleen                             |   |   |   |
| [ Leukemia Mononuclear TGLS = 2-14 ] |   |   |   |
| * Testes                             | Bilateral, Interstit Cell                                 | Adenoma   |   |
| [ Adenoma TGLS = 1-9 ]               |   |   |   |

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 626

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41245

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Moderate
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
	Cortex, Renal Tubule	Hyperplasia	Minimal
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
* Liver		Nephropathy	Chronic, Marked
		Basophilic Focus	
		Hepatocellular Adenoma	
	[ Hepatocellular Adenoma TGLS = 7-16 ]		
* Lung	Alveolar Epith	Hyperplasia	Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
Peritoneum		Mesothelioma Malignant	
	[ Mesothelioma Malignant TGLS = 2,3,4-14+15+18+19+17 ]		
* Pituitary Gland		Adenoma	
Pleura	Mesothelium	Hyperplasia	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Malignant	
	[ Adenoma TGLS = 6-9 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 626

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41245

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Mesothelioma Malignant TGLS = 2-18 ]

\* Thyroid Gland

C Cell

Adenoma

[ Adenoma TGLS = 5-3 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 627

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41246

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Liver
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Kidney	Cortex, Renal Tubule Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Hyperplasia Mineralization Nephropathy	Mild Minimal Minimal Chronic, Marked
* Lung	Interstitialium Alveolar Epith Alveolus	Fibrosis Hyperplasia Infiltration Cellular Inflammation	Mild Minimal Histiocyte, Mild Chronic, Moderate
	[ Fibrosis TGLS = 2,4-14+15 ] [ Inflammation TGLS = 2,4-14+15 ]		
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia Adenoma	Hyaline, Marked Mild
* Pituitary Gland			
	[ Adenoma TGLS = 3-10 ]		
* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 1-9 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 627

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41246

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 628

TRT#: 7

SEX: Male

DAY ON TEST: 635

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41247

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Brain		Astrocytoma Benign	
		Compression	Marked
* Heart		Cardiomyopathy	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Larynx		Inflammation	Chronic, Mild
* Liver		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 2-14 ]		
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Minimal
		Inflammation	Chronic, Mild
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Germinal Epith	Atrophy	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 629

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41248

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Clear Cell Focus	
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Goblet Cell	Hyperplasia	Minimal
* Pituitary Gland		Hyperplasia	Moderate
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
Urethra	Transit Epithe	Hyperplasia	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 630

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41249

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Marked
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 3-7 ]			
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Nose	Olfactory Epi Glands	Degeneration	Hyaline, Marked
		Dilatation	Moderate
Note: photogenic nose lesion with hyaline material in lumen of xs2			
* Pancreas	Artery	Inflammation	Moderate
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 631

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41250

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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	Pleura	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Islets, Pancreatic		Carcinoma	
* Kidney	Cortex, Renal Tubule	Hyperplasia	Moderate
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 5-7 ]			
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Note: tgl 6 no corresponding micro lesion			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Glands	Dilatation	Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Skin	Subcut Tiss	Fibroma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 631

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41250

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroma TGLS = 1-14+15+16 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-18 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 3-9 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 632

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41251

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Cortex, Renal Tubule Cortex, Renal Tubule	Accumulation, Hyaline Droplet Hyperplasia Nephropathy	Moderate Marked Chronic, Marked
* Liver		Eosinophilic Focus Leukemia Mononuclear	
* Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular Leukemia Mononuclear	Marked Histiocyte, Mild
Lymph Node [ Leukemia Mononuclear TGLS = 4-14 ]	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Fibrosis	Mild
* Nose	Olfactory Epi	Leukemia Mononuclear Degeneration	Hyaline, Marked
* Pituitary Gland [ Adenoma TGLS = 6-10 ]		Adenoma	
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 632

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41251

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 1,2-15+16 ]	Leukemia Mononuclear
* Stomach, Glandular [ Carcinoma TGLS = 5-19+20 ]	Carcinoma
* Testes [ Adenoma TGLS = 3-9+17 ]	Bilateral, Interstit Cell Adenoma

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 633

TRT#: 7

SEX: Male

DAY ON TEST: 537

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41252

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Mild
	Cortex, Renal Tubule	Hyperplasia	Mild
	Cortex	Infarct	Moderate
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
[ Infarct TGLS = 6-18 ]			
* Liver	Bile Duct	Hepatocellular Adenoma	
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: diff dx for adenoma is regeneration related to mcl in liver.			
[ Hepatocellular Adenoma TGLS = 3-15 ]			
[ Leukemia Mononuclear TGLS = 4,5-6+14 ]			
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Goblet Cell	Hyperplasia	Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-16 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 633

**TRT#:** 7  
**DOSE:** 1200 PPM

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 537  
**HISTO:** 41252

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Bilateral, Interstit Cell	Adenoma
[ Adenoma TGLS = 1-9 ]		

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 634

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41253

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	Coagulating Gland	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye			
Note: tgl 1 no corresponding micro lesion			
* Heart		Cardiomyopathy	Minimal
* Kidney	Cortex, Renal Tubule	Hyperplasia	Mild
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Glands	Dilatation	Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 2-16 ]			
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Accessory Spleen	
		Leukemia Mononuclear	
[ Accessory Spleen TGLS = 6-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 634

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41253

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 5-15 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 4-9 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 635

TRT#: 7

SEX: Male

DAY ON TEST: 662

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41254

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	Lacrimal Gland
* Liver	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Marked
* Epididymis	Mesothelioma Malignant	
[ Mesothelioma Malignant TGLS = 10-9 ]		
* Heart	Cardiomyopathy	Moderate
* Kidney	Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 8-7+19 ]		
* Larynx	Foreign Body	Marked
* Lung	Alveolar/Bronchiolar Carcinoma	
	Alveolar Epith Metaplasia	Squamous, Moderate
[ Alveolar/Bronchiolar Carcinoma TGLS = 11-18 ]		
* Mammary Gland	Fibroadenoma	
	Galactocele	Marked
[ Fibroadenoma TGLS = 3-14 ]		
[ Galactocele TGLS = 1,2,4,5 -20+21+15+16 ]		
Mesentery	Mesothelioma Malignant	
	Necrosis	Moderate
[ Mesothelioma Malignant TGLS = 6-17 ]		
[ Necrosis TGLS = 6-17 ]		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 635	<b>TRT#:</b> 7 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 662 <b>HISTO:</b> 41254
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi Glands	Degeneration Dilatation Adenoma	Hyaline, Moderate Minimal
* Pituitary Gland [ Adenoma TGLS = 7-10 ]			
* Stomach, Forestomach [ Ulcer TGLS = 12-23 ]		Hyperplasia Ulcer	Squamous, Marked Marked
* Testes [ Atrophy TGLS = 9-9 ] [ Mesothelioma Malignant TGLS = 10-9 ]	Germinal Epith	Atrophy Mesothelioma Malignant	Marked

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PRIMARY CAUSE OF DEATH	- Pituitary Gland Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Stomach;Forestomach Ulcer

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 636

TRT#: 7

SEX: Male

DAY ON TEST: 684

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41255

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* 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, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Esophagus		Carcinoma	Metastatic (Thyroid Gland)
* Kidney	Cortex, Renal Tubule Papilla	Accumulation, Hyaline Droplet Mineralization Nephropathy	Mild Minimal Chronic, Moderate
* Larynx	Epiglottis	Hyperplasia Inflammation	Mild Chronic, Mild
* Liver		Clear Cell Focus	
[ Clear Cell Focus TGLS = 7-18 ]			
* Lung	Alveolus	Foreign Body Inflammation	Marked Suppurative, Marked
[ Inflammation TGLS = 4,5,11-5+16+17 ]			
Lymph Node	Deep Cervical	Inflammation	Suppurative, Marked
[ Inflammation TGLS = 1-14 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 8-15 ]			
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia	Hyaline, Marked Mild
* Parathyroid Gland		Carcinoma	Metastatic (Thyroid Gland)
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 636	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 684
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41255

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-10 ]			
* Prostate		Inflammation	Suppurative, Minimal
* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 10-9 ]			
[ Atrophy TGLS = 9-9 ]			
* Thyroid Gland	Follicular Cel	Carcinoma	
[ Carcinoma TGLS = 2-3 ]			
* Trachea		Carcinoma	Metastatic (Thyroid Gland)

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PRIMARY CAUSE OF DEATH	- Thyroid Gland Follicular Cel Carcinoma
CONTRIBUTORY CAUSE OF DEATH	- Lung Inflammation;Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 637

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41256

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Hyperplasia Nephropathy	Mild Chronic, Moderate
* Liver		Clear Cell Focus	
* Lung	Interstitialium Alveolar Epith	Alveolar/Bronchiolar Adenoma Fibrosis Hyperplasia	Moderate Marked
	[ Alveolar/Bronchiolar Adenoma TGLS = 2-15 ]		
	[ Fibrosis TGLS = 2-15 ]		
	[ Hyperplasia TGLS = 1-14 ]		
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Marked Mild
* Parathyroid Gland		Carcinoma	Metastatic (Thyroid Gland)
* Pituitary Gland		Adenoma	
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 3-9 ]		
* Thyroid Gland	C Cell C Cell	Adenoma Carcinoma	
Tongue	Epithelium	Hyperplasia	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 637

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41256

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 4-17 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 638

TRT#: 7

SEX: Male

DAY ON TEST: 518

DOSE: 1200 PPM

DISP: Natural Death

HISTO: 41257

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Eye
* Harderian Gland	* Islets, Pancreatic	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

OBSERVATIONS

Blood Vessel	Aorta, Pulmn Artery	Sarcoma	Metastatic (Heart)
* Heart	Pericardium	Sarcoma	

Note: Site of primary tumor is not clear, appears to be pericardium or adjacent mediastinum or vessels.

Note: Primary tumor is predominantly spindle cells and MGC with visible collagen, but columnar epith present in pericardial mass on sl 14.

Note: Presence of epithelial component suggests this may be a teratoma, but could also be remnants of normal mesothelium or thymic epith..

[ Sarcoma TGLS = 3,4,8-15+16 ]

* Kidney	Cortex	Infarct	Marked
		Nephropathy	Chronic, Moderate
		Sarcoma	Metastatic (Heart)

[ Infarct TGLS = 5-7 ]

[ Sarcoma TGLS = 5-7 ]

* Liver		Necrosis	Marked
* Lung	Alveolar Epith	Metaplasia	Squamous, Moderate
		Sarcoma	Metastatic (Heart)
* Lymph Node, Mediastinal		Sarcoma	Metastatic (Heart)

[ Sarcoma TGLS = 7-14 ]

* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 638

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 518

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41257

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Glands	Dilatation	Mild
Pleura		Adenoma	
* Testes	Interstit Cell	Sarcoma	Metastatic (Heart)
[ Adenoma TGLS = 6-9 ]		Adenoma	
* Thymus		Sarcoma	Metastatic (Heart)

---

**PRIMARY CAUSE OF DEATH** - Heart Pericardium Sarcoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 639

TRT#: 7

SEX: Male

DAY ON TEST: 612

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41258

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Papilla	Mineralization Nephropathy Clear Cell Focus	Minimal Chronic, Mild
* Liver		Hepatodiaphragmatic Nodule Leukemia Mononuclear	Marked
[ Clear Cell Focus TGLS = 5-16 ] [ Hepatodiaphragmatic Nodule TGLS = 3-15 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			
* Urinary Bladder	Transit Epithe Transit Epithe	Carcinoma Hyperplasia	Moderate
[ Carcinoma TGLS = 4-18 ]			

PRIMARY CAUSE OF DEATH

- Urinary Bladder Transit Epithe Carcinoma

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 639

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 612

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41258

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 640

TRT#: 7

SEX: Male

DAY ON TEST: 550

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41259

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Minimal
	Cortex, Renal Tubule	Hyperplasia	Minimal
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Vacuolization Cytoplasmic	Marked
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
	Pleura	Inflammation	Chronic, Minimal
* Stomach, Forestomach		Hyperplasia	Squamous, Moderate
		Ulcer	Marked
* Testes	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 640

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 550

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41259

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Stomach;Forestomach Ulcer

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 641

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41260

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Liver	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Lung	Interstitium	Fibrosis	Minimal
Mesentery		Mesothelioma Malignant	
[ Mesothelioma Malignant TGLS = 2-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
Peritoneum		Mesothelioma Malignant	
[ Mesothelioma Malignant TGLS = 2,3,4,6-15+17+18+14+16 ]			
Pleura		Inflammation	Chronic, Mild
		Mesothelioma Malignant	Metastatic (Peritoneum)
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Malignant	
[ Adenoma TGLS = 5-17+18 ]			
[ Mesothelioma Malignant TGLS = 3-17+18 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

---

**ANIMAL ID:** 641

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41260

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 642

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41261

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Moderate
* Kidney	Cortex, Renal Tubule	Hyperplasia	Mild
	Pelvis, Transit Epithe	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
	[ Nephropathy TGLS = 7-7 ]		
* Liver		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-6 ]		
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
* Skin		Cyst Epithelial Inclusion	Marked
	[ Cyst Epithelial Inclusion TGLS = 1-14 ]		
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 5-15 ]		
	[ Leukemia Mononuclear TGLS = 4-15 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 642

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41261

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2,3-9+16 ]

\* Urinary Bladder

Transit Epithe

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 643

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 616

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41262

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Eye	* Harderian Gland	* Heart	* Islets, Pancreatic
* Larynx	* Liver	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

**OBSERVATIONS**

* Kidney	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Prostate		Inflammation	Suppurative, Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-9 ]			

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 644

TRT#: 7

SEX: Male

DAY ON TEST: 663

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41263

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Malignant	Mild
	[ Pheochromocytoma Malignant TGLS = 4-7 ]		
* Epididymis		Mesothelioma Malignant	
* Kidney	Papilla	Mineralization Nephropathy Degeneration Eosinophilic Focus Hepatodiaphragmatic Nodule	Minimal Chronic, Moderate Cystic, Mild Marked
	[ Hepatodiaphragmatic Nodule TGLS = 3-14 ]		
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Moderate Minimal
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy Mesothelioma Malignant	Marked
	[ Adenoma TGLS = 1-9 ]		
	[ Atrophy TGLS = 2-9 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 644

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 663

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41263

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Adrenal Medulla Pheochromocytoma Malignant

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 645

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41264

**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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Moderate
* Eye			
Note: tgl 1 no corresponding micro lesion			
* Kidney	Pelvis, Transit Epithe Papilla	Hyperplasia Mineralization Nephropathy	Mild Minimal Chronic, Marked
[ Nephropathy TGLS = 5-7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia	Hyaline, Marked Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-9 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 645

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41264

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 646

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 683

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41265

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Eye	* Harderian Gland
* Heart	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum
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**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Moderate
* Brain		Hemorrhage	Moderate
* Kidney	Cortex, Renal Tubule	Adenoma	
	Cortex, Renal Tubule	Hyperplasia	Minimal
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 1-10 ]		
* Prostate		Inflammation	Suppurative, Mild
* Testes	Germinal Epith	Atrophy	Minimal

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

**CONTRIBUTORY CAUSE OF DEATH**

- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 647

TRT#: 7

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41266

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	Blood Vessel	* Bone	* Bone Marrow
* Brain	Ear	* 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	* Larynx	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Thymus
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 7-7 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney	Cortex, Renal Tubule	Hyperplasia	Marked
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
Note: see arrow on r kidney; diff dx tubular cell adenoma.			
[ Nephropathy TGLS = 8-7 ]			
* Liver		Leukemia Mononuclear	
* Lung		Hemorrhage	Mild
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 3-4+5+18 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-22 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-16+17 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 647

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41266

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
Skeletal Muscle		Mineralization	Mild
[ Mineralization TGLS = 9-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-19 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4,5-9+20 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 648

TRT#: 7

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41267

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Liver	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Pheochromocytoma Malignant	
* Kidney	Cortex, Renal Tubule	Hyperplasia	Mild
		Nephropathy	Chronic, Marked
Note: focal 2+ hyperplasia in r kidney; see arrow.			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Mammary Gland	Epithelium	Cyst	Squamous, Marked
[ Cyst TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Foreign Body	Moderate
	Goblet Cell	Hyperplasia	Minimal
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
Pleura		Inflammation	Chronic, Minimal
* Prostate		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	Moderate
[ Fibrosis TGLS = 2-15 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 648	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41267

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Interstit Cell	Adenoma	
	Germinal Epith	Atrophy	Marked
	Interstit Cell	Hyperplasia	Moderate
[ Adenoma TGLS = 4-9 ]			
[ Atrophy TGLS = 3-9 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 649

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 716

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41268

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney	Papilla	Mineralization Nephropathy	Minimal Chronic, Marked
[ Nephropathy TGLS = 5,6-7 ]			
* Liver		Leukemia Mononuclear	
* Lung	Interstitium	Fibrosis Inflammation Leukemia Mononuclear	Mild Suppurative, Moderate
[ Inflammation TGLS = 1-14 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation Foreign Body	Hyaline, Marked Mild Moderate
	Goblet Cell Respirat Epith	Hyperplasia Hyperplasia Inflammation	Moderate Moderate Suppurative, Moderate
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 649

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 716

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41268

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Necrosis TGLS = 3-15 ]		Necrosis	Moderate
* Testes	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Marked
[ Adenoma TGLS = 2-9 ]			

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 650

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 696

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41269

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	Pleura	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Heart		Carcinoma	Metastatic (Lung)
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
	Cortex, Renal Tubule	Hyperplasia	Marked
	Pelvis, Transit Epithe	Hyperplasia	Mild
	Papilla	Mineralization	Minimal
		Nephropathy	Chronic, Marked
	[ Nephropathy TGLS = 5-7 ]		
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
	[ Clear Cell Focus TGLS = 4-17 ]		
* Lung		Alveolar/Bronchiolar Carcinoma	
	[ Alveolar/Bronchiolar Carcinoma TGLS = 7,8-14+15+16+4+5 ]		
* Lymph Node, Bronchial		Carcinoma	Metastatic (Lung)
* Lymph Node, Mediastinal		Carcinoma	Metastatic (Lung)
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Glands	Dilatation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 650

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 696

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41269

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland [ Adenoma TGLS = 1-10 ]		Inflammation Adenoma	Suppurative, Moderate
* Prostate [ Inflammation TGLS = 6-19 ]		Inflammation	Suppurative, Mild
* Spleen		Fibrosis	Moderate
* Testes [ Adenoma TGLS = 2-9 ] [ Atrophy TGLS = 3-9 ]	Bilateral, Interstit Cell Germinal Epith	Adenoma Atrophy	Moderate

**PRIMARY CAUSE OF DEATH**

- Lung Alveolar/Bronchiolar Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 101

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41170

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Marked
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Angiectasis	Moderate
		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
Note: tgl 9 not found at micro exam. rar			
			[ Angiectasis TGLS = 6-15 ]
			[ Hepatodiaphragmatic Nodule TGLS = 5-14 ]
Lymph Node	Pancreatic	Leukemia Mononuclear	
			[ Leukemia Mononuclear TGLS = 8-17 ]
* Lymph Node, Mediastinal		Leukemia Mononuclear	
			[ Leukemia Mononuclear TGLS = 3-3 ]
* Mammary Gland		Carcinoma	
		Fibroadenoma	
			[ Carcinoma TGLS = 2-18 ]
			[ Fibroadenoma TGLS = 7-19 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 101

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 41170

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 4-10 ]		Adenoma	
* Spleen		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 102

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 702

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41171

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 1-14 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

- Clitoral Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 103

TRT#: 2

SEX: Female

DAY ON TEST: 537

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41172

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland [ Sarcoma TGLS = 2-14+15 ]		Sarcoma	Metastatic (Vagina)
* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus	Minimal Chronic, Minimal
* Liver		Sarcoma	Metastatic (Vagina)
* Lung		Sarcoma	Metastatic (Vagina)
* Mammary Gland [ Sarcoma TGLS = 2-14+15 ]		Necrosis	Moderate
Mesentery [ Necrosis TGLS = 3-18 ]		Adenoma	
* Pituitary Gland		Sarcoma	Metastatic (Vagina)
* Skin [ Sarcoma TGLS = 2-14+15 ]	Subcut Tiss		
* Stom Forestom Note: tgl6 not found at micro exam. rar		Adenoma	
* Thyroid Gland	C Cell	Sarcoma	
Vagina [ Sarcoma TGLS = 4,5-16+17 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 103

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 537

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41172

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Vagina Sarcoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 104

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 380  
**HISTO:** 41173

**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
* Larynx	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Brain		Hemorrhage	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Marked
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Stomach, Glandular		Ulcer	Marked
[ Ulcer TGLS = 6-15 ]			

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 104

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 380  
**HISTO:** 41173

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH - Stomach;Glandular Ulcer

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 105

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 687  
**HISTO:** 41174

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear	Minimal Chronic, Minimal
* Liver			
[ Leukemia Mononuclear TGLS = 4-6+14 ]			
* Nose	Olfactory Epi	Degeneration Adenoma	Hyaline, Mild
* Pituitary Gland			
[ Adenoma TGLS = 2-10 ]			
Skeletal Muscle		Fibrous Histiocytoma	Metastatic (Skin)
[ Fibrous Histiocytoma TGLS = 5-16+17 ]			
* Skin	Subcut Tiss	Fibrous Histiocytoma	
[ Fibrous Histiocytoma TGLS = 5-16+17 ]			
* Spleen		Leukemia Mononuclear	
* Urinary Bladder	Transit Epithe	Hemorrhage Hyperplasia	Moderate Minimal
[ Hemorrhage TGLS = 3-15 ]			

**PRIMARY CAUSE OF DEATH** - Skin Subcut Tiss Fibrous Histiocytoma  
**CONTRIBUTORY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 105

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 687

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41174

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 106

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 642  
**HISTO:** 41175

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Bone	Maxilla	Necrosis	Marked
* Clitoral Gland		Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-14 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration	Hyaline, Minimal
		Hyperplasia	Moderate
		Inflammation	Suppurative, Marked
Note: moribundity very likely related to destruction of roof of mouth from malocclusion; see nose xs1.			
Pleura		Inflammation	Chronic, Minimal
* Skin		Ulcer	Moderate
[ Ulcer TGLS = 1-14 ]			
* Spleen		Accessory Spleen	
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 106	<b>TRT#:</b> 2 <b>DOSE:</b> CONTROL	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 642 <b>HISTO:</b> 41175
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Accessory Spleen TGLS = 3-6 ]

* Thyroid Gland	C Cell	Hyperplasia	Moderate
Tooth	Peridont Tiss	Inflammation	Moderate

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**PRIMARY CAUSE OF DEATH** - Bone Maxilla Necrosis

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 107

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41176

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
Pleura		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 108

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41177

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	Multiple
		[ Fibroadenoma TGLS = 1,3-14+15 ]	
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 4-10 ]	
Pleura		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 109

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41178

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- \* Adrenal Medulla
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Parathyroid Gland
- \* Skin
- \* Thyroid Gland
- \* Zymbal's Gland

- Blood Vessel
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Larynx
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Lung
- \* Ovary
- Pleura
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Pancreas
- \* Salivary Glands
- \* Thymus
- \* Uterus

**MISSING**

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

**OBSERVATIONS**

- \* Adrenal Cortex
- \* Kidney
- \* Liver

- Vacuolization Cytoplasmic
- Nephropathy
- Basophilic Focus
- Clear Cell Focus
- Leukemia Mononuclear
- Degeneration
- Leukemia Mononuclear

- Mild
- Chronic, Minimal

- \* Nose
- \* Spleen

Olfactory Epi

Hyaline, Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 110

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41179

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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	* Kidney
* Larynx	* Liver	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Marked
* Brain		Compression	
		Hemorrhage	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Skin	Subcut Tiss	Liposarcoma	
[ Liposarcoma TGLS = 1-14 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 111

TRT#: 2

SEX: Female

DAY ON TEST: 670

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41180

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
	[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]		
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Skin	Subcut Tiss	Fibroma	
	[ Fibroma TGLS = 1-14 ]		

PRIMARY CAUSE OF DEATH

- Skin Subcut Tiss Fibroma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 112

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41181

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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Minimal
* Lymph Node, Mediastinal		Pigmentation	Moderate
[ Pigmentation TGLS = 1-3 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 3,4-14+15 ]			
* Nose		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
Pleura		Inflammation	Chronic, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 5-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 112

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41181

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 113

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41182

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	Tongue	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Serosa	Hemorrhage	Moderate
		Leukemia Mononuclear	
		[ Clear Cell Focus TGLS = 6,7,8,11,13-14+15+16+6 ]	
		[ Hemorrhage TGLS = 12-15 ]	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mediastinal		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 9-3 ]	
* Mammary Gland		Carcinoma	Multiple
		Fibroadenoma	
		Note: slide 20 is good example of ca arising in fibroadenoma	
		[ Carcinoma TGLS = 3,5-20+17 ]	
		[ Fibroadenoma TGLS = 4-18 ]	
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 10-10 ]	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 113

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41182

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Leukemia Mononuclear

Tongue

Note: tgl 2 not found at histo exam. rar

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 114

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 41183

**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	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Larynx		Inflammation	Suppurative, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 8-6 ]		
* Lung		Leukemia Mononuclear	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 9-19 ]		
	[ Leukemia Mononuclear TGLS = 2-20 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-3 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 11-8 ]		
* Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 114

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 41183

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Fibroadenoma TGLS = 1-17 ] Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 10-18 ]		
* Pituitary Gland	Angiectasis	Marked
[ Angiectasis TGLS = 3-10 ]		
* Spleen	Hemorrhage	Marked
	Leukemia Mononuclear	
[ Hemorrhage TGLS = 7-16 ]		
[ Leukemia Mononuclear TGLS = 5,6-14+15 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 115

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41184

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 9-17 ]		
	[ Leukemia Mononuclear TGLS = 5-6 ]		
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
	Alveolus	Proteinosis	Mild
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,2-19+20 ]		
* Ovary		Cyst	Marked
	[ Cyst TGLS = 7-18 ]		
Pleura		Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 3,4,8-14+15+16 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-6 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 115

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41184

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 116

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 558  
**HISTO:** 41185

**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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex [ Degeneration TGLS = 8-7 ]	Degeneration	Cystic, Marked
* Brain	Compression	Moderate
* Kidney	Nephropathy	Chronic, Minimal
* Liver [ Clear Cell Focus TGLS = 5,6-6 ]	Clear Cell Focus	
* Mammary Gland [ Fibroadenoma TGLS = 3-14 ]	Fibroadenoma	
* Pituitary Gland [ Adenoma TGLS = 4-10 ]	Adenoma	

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 117	<b>TRT#:</b> 2 <b>DOSE:</b> CONTROL	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 41186
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

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**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Adenoma	Minimal Chronic, Minimal
* Liver			
* Pituitary Gland			
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 118

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 415

**DOSE:** CONTROL

**DISP:** Natural Death

**HISTO:** 41187

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Clitoral Gland	* Esophagus	* Harderian Gland
* Heart	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	Pleura	* Salivary Glands
* Skin	* Uterus		

**MISSING**

\* Lymph Node, Mandibular

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Adrenal Medulla	* Bone Marrow	* Brain
* Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Larynx	* Liver	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

**OBSERVATIONS**

Mesentery	Necrosis	Minimal
[ Necrosis TGLS = 2-15 ]		
* Zymbal's Gland	Carcinoma	
[ Carcinoma TGLS = 1-14+16 ]		

**PRIMARY CAUSE OF DEATH**

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 119

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41188

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Eye [ Cataract TGLS = 1-13 ]	Lens	Cataract	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Mammary Gland [ Fibroadenoma TGLS = 3-15 ]		Fibroadenoma	
Mesentery [ Necrosis TGLS = 4-16 ]		Necrosis	Minimal
* Pituitary Gland [ Adenoma TGLS = 2-10 ]		Adenoma	
* Uterus [ Decidual Reaction TGLS = 5-14 ] [ Polyp Stromal TGLS = 6-10 ]		Decidual Reaction Polyp Stromal	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 120

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41189

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus	Minimal Chronic, Minimal
* Liver		Hyperplasia	Mild
* Lung	Alveolar Epith Alveolus	Infiltration Cellular Inflammation Adenoma	Histiocyte, Mild Chronic, Minimal
* Pituitary Gland [ Adenoma TGLS = 1-10 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 121

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41190

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Eosinophilic Focus	
Note: NO CORRELATING LESION FOR TGLS = 4-6 [ Eosinophilic Focus TGLS = 8-16+17 ]			
* Lung	Interstitial	Fibrosis	Minimal
	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
	Alveolus	Proteinosis	Minimal
		Fibroadenoma	
* Mammary Gland			
[ Fibroadenoma TGLS = 1-18 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 6-15 ]			
* Thyroid Gland	C Cell	Adenoma	
[ Adenoma TGLS = 2-3 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 121

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41190

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 5-10 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 122

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41191

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Mild
* Clitoral Gland	Adenoma	
[ Adenoma TGLS = 2-9 ]		
* Kidney	Nephropathy	Chronic, Moderate
* Liver	Basophilic Focus	
	Clear Cell Focus	
* Mammary Gland	Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 3,4-14+15 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 5-16 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Thyroid Gland	C Cell	Adenoma

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 123

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41192

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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
* Lung		Thrombosis	Mild
Note: large fat thrombus in r lung on slide 4; no response visible. Or is it an artifact?			
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 1-15+14 ]			
* Nose	Respirat Epith	Hyperplasia	Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 124

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41193

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 2-9 ]			
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 7-6 ]			
* Lymph Node, Mediastinal		Infiltration Cellular	Histiocyte, Moderate
		Pigmentation	Moderate
[ Infiltration Cellular TGLS = 6-3 ]			
* Mammary Gland		Carcinoma	
		Fibroadenoma	
[ Carcinoma TGLS = 3-14 ]			
[ Fibroadenoma TGLS = 1-16 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 5-15 ]			
* Pituitary Gland		Angiectasis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 124	<b>TRT#:</b> 2	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 731
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41193

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Angiectasis TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 125

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41194

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-6 ]		
* Lung		Leukemia Mononuclear	
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 2-10 ]		
Pleura		Inflammation	Chronic, Mild
* Skin	Subcut Tiss	Fibrosarcoma	
	[ Fibrosarcoma TGLS = 1-14 ]		
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 126

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 732

HISTO: 41195

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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,5,6-15+14+9 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-16 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 127

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41196

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung	Interstitialium	Fibrosis	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
	Alveolus	Proteinosis	Mild
	[ Infiltration Cellular TGLS = 2,3,4-14+15+16 ]		
* Mammary Gland		Carcinoma	
	[ Carcinoma TGLS = 1-17 ]		
* Ovary		Cyst	Marked
	[ Cyst TGLS = 5-9 ]		
Pleura		Inflammation	Chronic, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 128

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41197

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Inflammation	Granulomatous, Mild
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 3,4,5-14+15+16 ]			
[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-17 ]			
* Pituitary Gland		Hyperplasia	Moderate
* Spleen		Leukemia Mononuclear	
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 6-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 129

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41198

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Nephropathy	Chronic, Moderate
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
	Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 5-3 ]		
* Mammary Gland [ Fibroadenoma TGLS = 1,2,3,4-15+16+17+18+9 ]	Fibroadenoma	Multiple
* Ovary [ Cyst TGLS = 6-14 ]	Cyst	Marked
* Pituitary Gland [ Adenoma TGLS = 8-10 ]	Adenoma	
* Spleen	Leukemia Mononuclear	
* Uterus [ Hemorrhage TGLS = 7-10 ]	Hemorrhage	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 130

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41199

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 2-15 ]		
* Pituitary Gland	Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-10 ]		
* Thyroid Gland	C Cell	Mild

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 131

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 587

HISTO: 41200

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Moderate
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Minimal
	Alveolus	Proteinosis	Minimal
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 1-15 ]			
* Pituitary Gland		Hyperplasia	Moderate
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 4-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 132

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 718  
**HISTO:** 41201

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6 ]		
* Lung	Inflammation	Chronic, Mild
[ Inflammation TGLS = 6-14 ]	Leukemia Mononuclear	
* Lymph Node, Bronchial	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-16 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 4-17 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 3-10 ]		
Pleura	Inflammation	Chronic, Mild
[ Inflammation TGLS = 6-14 ]		
* Spleen	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-15 ]		

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 133

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41202

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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex	Adenoma	
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 5-15 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 1-16 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 4-10 ]		
* Uterus	Hemorrhage	Chronic, Marked
[ Hemorrhage TGLS = 2-14 ]	Polyp Stromal	
[ Polyp Stromal TGLS = 2,3-10+14 ]		

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 134

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 41203

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear	Minimal Chronic, Mild
* Liver			
* Lung	Alveolar Epith	Hyperplasia	Marked
[ Hyperplasia TGLS = 3-4 ]			
* Lymph Node, Mediastinal		Angiectasis Leukemia Mononuclear	Marked
[ Angiectasis TGLS = 2-3 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 5-14 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 6-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 135

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Natural Death

**DAY ON TEST:** 715  
**HISTO:** 41204

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Kidney		Leukemia Mononuclear Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Lung	Alveolar Epith	Hemorrhage Hyperplasia Leukemia Mononuclear	Marked Marked
[ Hemorrhage TGLS = 7,8,9-5+15+16 ]			
[ Hyperplasia TGLS = 6-14 ]			
Lymph Node	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-6 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 135

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 715

**DOSE:** CONTROL

**DISP:** Natural Death

**HISTO:** 41204

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 136

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41205

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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	Tissue NOS
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 3-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 137

TRT#: 2

SEX: Female

DAY ON TEST: 732

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41206

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, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Adenoma	
* Kidney	Pelvis	Mineralization	Mild
		Nephropathy	Chronic, Mild
* Larynx		Inflammation	Suppurative, Moderate
* Liver		Basophilic Focus	
* Lym Node Media			
Note: tgl 2 not found at histopath. rar			
* Lymph Node, Bronchial		Angiectasis	Moderate
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Pituitary Gland		Adenoma	
		Angiectasis	Moderate
[ Adenoma TGLS = 3-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 138

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41207

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Kidney	* Larynx	* Lung
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLS = 2-6 ]			
* Liver		Basophilic Focus	
[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]		Hepatodiaphragmatic Nodule	Marked
* Lymph Node, Mediastinal		Angiectasis	Minimal
[ Angiectasis TGLS = 1-3 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-14 ]			
Mesentery	Fat	Hemorrhage	Moderate
		Necrosis	Moderate
[ Hemorrhage TGLS = 5-16 ]			
[ Necrosis TGLS = 4-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 139

TRT#: 2

SEX: Female

DAY ON TEST: 284

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41208

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Kidney	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Carcinoma Hemorrhage	Metastatic (Zymbal'S Gland) Mild
[ Carcinoma TGLS = 5-14 ]			
* Eye	Sclera	Inflammation Phthisis Bulbi	Suppurative, Marked
[ Inflammation TGLS = 1-13 ]			
* Larynx		Inflammation	Suppurative, Mild
* Liver		Vacuolization Cytoplasmic	Minimal
Lymph Node	Deep Cervical	Inflammation	Chronic, Marked
[ Inflammation TGLS = 4-15 ]			
* Lymph Node, Mediastinal		Angiectasis	Marked
[ Angiectasis TGLS = 3-3 ]			
* Pituitary Gland		Carcinoma	Metastatic (Zymbal'S Gland)
* Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 2-16+12 ]			

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 140

TRT#: 2

SEX: Female

DAY ON TEST: 684

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41209

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Pancreas	* Parathyroid Gland
Peripheral Nerve	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland		Cyst	Moderate
		Hyperplasia	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 3-15 ]			
* Ovary		Granulosa-Theca Tumor Malignant	
[ Granulosa-Theca Tumor Malignant TGLS = 1-14 ]			
* Pituitary Gland		Hemorrhage	Marked
[ Hemorrhage TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
* Uterus		Leiomyosarcoma	
[ Leiomyosarcoma TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH - Ovary Granulosa-Theca Tumor Malignant

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 140

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 684  
**HISTO:** 41209

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Hemorrhage

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 141

TRT#: 2

SEX: Female

DAY ON TEST: 625

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41210

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain	Compression	
* Eye		
Note: tgl 1 not seen at histopath. rar		
* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Clear Cell Focus	
[ Clear Cell Focus TGLS = 3-6 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 4-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		
* Thyroid Gland	C Cell	Minimal
	Hyperplasia	

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 142

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 593

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 41211

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Clitoral Gland		Hyperplasia	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]			
* Lung		Carcinoma	Metastatic (Thyroid Gland)
Note: small mets from c cell ca in both lungs.			
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 1-3 ]			

PRIMARY CAUSE OF DEATH

- Lung Carcinoma Thyroid Gland

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 143

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41212

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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Metaplasia	Osseous, Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Interstitialium	Fibrosis	Minimal
	Alveolar Epith	Hyperplasia	Marked
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Minimal
[ Hyperplasia TGLS = 6-5 ]			
[ Infiltration Cellular TGLS = 3,6-5 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 143

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730  
**HISTO:** 41212

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**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Carcinoma TGLS = 2-3 ]

C Cell

Carcinoma

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 144

TRT#: 2

SEX: Female

DAY ON TEST: 731

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41213

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Clitoral Gland		Cyst	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Nasolacrim Dct	Inflammation	Suppurative, Mild
* Ovary		Cyst	Mild
[ Cyst TGLS = 2-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 145

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 171

**DOSE:** CONTROL

**DISP:** Natural Death

**HISTO:** 41214

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Intestine Large, Colon
* Intestine Large, Rectum	* Islets, Pancreatic	* Kidney	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Liver	Infarct	Marked
[ Infarct TGLS = 1-14 ]		

**PRIMARY CAUSE OF DEATH**

- Liver Infarct

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 146

TRT#: 2

SEX: Female

DAY ON TEST: 708

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 41215

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
* Larynx	* Liver	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Marked
* Brain	Hemorrhage	Marked
[ Hemorrhage TGLS = 4-1 ]		
* Kidney	Nephropathy	Chronic, Minimal
* Lung	Leukemia Mononuclear	
* Lymph Node, Bronchial	Leukemia Mononuclear	
* Mammary Gland	Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,5-14+15 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 3-10 ]		
* Spleen	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]		

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 147

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 41216

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Lymph Node, Mediastinal		Pigmentation	Mild
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Ovary		Cyst	Minimal
* Pituitary Gland		Adenoma	
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 148

TRT#: 2

SEX: Female

DAY ON TEST: 730

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 41217

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Dilatation	Marked
		Hepatocellular Adenoma	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 4,5-14+15 ]			
[ Hepatocellular Adenoma TGLS = 4-14 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-16 ]			
* Pituitary Gland		Angiectasis	Moderate
[ Angiectasis TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 149

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41218

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, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Kidney		Nephropathy	Chronic, Mild
* Larynx		Foreign Body	Marked
		Inflammation	Suppurative, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
* Lung	Interstitial	Fibrosis	Minimal
	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Mild
* Ovary		Cyst	Mild
[ Cyst TGLS = 1-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Minimal
[ Inflammation TGLS = 5-15 ]			
* Spleen		Leukemia Mononuclear	
Tongue	Epithelium	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 149

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 41218

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 4-16 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 150

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 41219

**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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 4-14 ]		
	[ Leukemia Mononuclear TGLS = 3-6 ]		
* Lung	Bronchiole	Hyperplasia	Mild
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-15 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 5-10 ]		
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-6 ]		

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 301

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41470

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
	Fibroadenoma	
* Mammary Gland [ Fibroadenoma TGLS = 1-15 ]		
* Pituitary Gland [ Adenoma TGLS = 2-10 ]	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 3-14 ]	Leukemia Mononuclear	
* Uterus	Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 302

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41471

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 1-16+17 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 4-15 ]			
[ Hepatodiaphragmatic Nodule TGLS = 3-14 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-16 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 2-18 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 302

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41471

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 303

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41472

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Minimal
* Larynx		Inflammation	Suppurative, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Mammary Gland		Adenoma	
[ Adenoma TGLS = 3-15 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 304

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41473

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla		Hyperplasia	Mild
* Clitoral Gland		Cyst	Marked
		Hyperplasia	Marked
[ Cyst TGLS = 2-16 ]			
[ Hyperplasia TGLS = 2-16 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 5-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-3 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
		Foreign Body	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 304

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41473

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Respirat Epith

Hyperplasia

Mild

Inflammation

Suppurative, Moderate

Adenoma

\* Pituitary Gland

[ Adenoma TGLS = 3-10 ]

Pleura

[ Inflammation TGLS = 7-5 ]

Inflammation

Chronic, Minimal

\* Spleen

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 305

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41474

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2-14+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Angiectasis	Mild
* Spleen		Accessory Spleen	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 306

TRT#: 4

SEX: Female

DAY ON TEST: 684

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41475

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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Brain		Hemorrhage	Minimal
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Marked
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Marked
		[ Vacuolization Cytoplasmic TGLS = 4-6 ]	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 1-16 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 5-10 ]	
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
		[ Leukemia Mononuclear TGLS = 2-14 ]	
		[ Necrosis TGLS = 3-15 ]	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 306

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 684

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41475

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 307

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41476

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 3-16 ]			
* Pituitary Gland		Angiectasis	Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 1-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 308

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41477

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* 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	* Larynx
* Lung	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Vacuolization Cytoplasmic	Mild
[ Hepatodiaphragmatic Nodule TGLS = 2-16 ]			
* Lymph Node, Mediastinal		Angiectasis	Marked
* Mammary Gland		Fibroadenoma	
		Galactocele	Marked
[ Fibroadenoma TGLS = 3-14 ]			
[ Galactocele TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Thyroid Gland	C Cell	Adenoma	
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 5-17 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 309

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41478

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
* Mammary Gland	Galactoceles	Marked
[ Galactoceles TGLS = 2-15 ]		
* Ovary	Cyst	Marked
[ Cyst TGLS = 1-14 ]		
* Pituitary Gland	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 310

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41479

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		[ Clear Cell Focus TGLS = 4-6 ]	
		[ Hepatodiaphragmatic Nodule TGLS = 3,5-14+15 ]	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 1-16 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Hyperplasia	Mild
		[ Hyperplasia TGLS = 2-10 ]	

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 311

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 656

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41480

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 9-14 ]			
* Lymph Node, Mediastinal		Infiltration Cellular	Histiocyte, Mild
[ Infiltration Cellular TGLS = 10-3 ]			
* Mammary Gland		Carcinoma	
		Fibroadenoma	Multiple
[ Carcinoma TGLS = 1-15 ]			
[ Fibroadenoma TGLS = 2,4,5,6-16+17+18+19 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 7-20 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Marked
[ Cyst TGLS = 8-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 311

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 656

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41480

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Leukemia Mononuclear

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 312

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41481

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis, Transit Epithe	Hyperplasia Nephropathy	Mild Chronic, Mild
* Liver		Basophilic Focus Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-6 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 5-16 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 313

TRT#: 4

DOSE: 75 PPM

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 708

HISTO: 41482

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	
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OBSERVATIONS

* Brain		Hydrocephalus	Moderate
* Heart	Atrium	Thrombosis	Marked
[ Thrombosis TGLS = 7-6 ]			
* Kidney		Inflammation	Suppurative, Marked
		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
[ Inflammation TGLS = 5-14 ]			
[ Leukemia Mononuclear TGLS = 6-7 ]			
* Liver		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Marked
[ Leukemia Mononuclear TGLS = 8-6 ]			
[ Vacuolization Cytoplasmic TGLS = 8-6 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Galactoceles	Marked
[ Galactoceles TGLS = 3-15 ]			
Mesentery		Necrosis	Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 313

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41482

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-6 ]

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Heart Atrium Thrombosis;Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 314

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41483

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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	Tissue NOS	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 5-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
* Mammary Gland		Carcinoma	
		Fibroadenoma	
[ Carcinoma TGLS = 1-14 ]			
[ Fibroadenoma TGLS = 2-15 ]			
Mesentery		Necrosis	Minimal
[ Necrosis TGLS = 4-16 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Uterus		Polyp Stromal	
Note: uterine polyp xs on slide 10 but not attached to horn.			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 315

TRT#: 4

SEX: Female

DAY ON TEST: 676

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41484

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Bone		Fibrous Osteodystrophy	Moderate
* Eye	Lens	Cataract	Mild
[ Cataract TGLS = 1-13 ]			
* Heart		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-6 ]			
* Kidney		Inflammation	Suppurative, Marked
		Nephropathy	Chronic, Minimal
Note: supp inflam in both kidneys, slides 7 and 15			
[ Inflammation TGLS = 6,12-15+7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Fibrosis	Moderate
[ Fibrosis TGLS = 9-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-8 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-16 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 8-17 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 315	<b>TRT#:</b> 4 <b>DOSE:</b> 75 PPM	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 676 <b>HISTO:</b> 41484
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary [ Leukemia Mononuclear TGLS = 5-9 ]		Leukemia Mononuclear	
* Pancreas [ Necrosis TGLS = 4-6 ]		Necrosis	Marked
* Pituitary Gland [ Adenoma TGLS = 3-10 ]		Adenoma	
* Spleen		Leukemia Mononuclear	
* Urinary Bladder [ Hyperplasia TGLS = 13-10 ]	Transit Epithe	Hyperplasia Leukemia Mononuclear	Moderate

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Pancreas Necrosis

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 316

TRT#: 4

SEX: Female

DAY ON TEST: 726

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41485

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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Mild
* Brain	Compression	Moderate
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
	Fibroadenoma	
* Mammary Gland		
[ Fibroadenoma TGLS = 2-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Spleen	Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:39

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 317

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41486

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 318

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41487

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Nose	Nasolacrim Dct	Inflammation	Suppurative, Mild
* Pituitary Gland		Angiectasis	Mild
[ Angiectasis TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:39

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 319

TRT#: 4

SEX: Female

DAY ON TEST: 683

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41488

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Nose
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OBSERVATIONS

* Brain	Compression	
	Hemorrhage	Marked
* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Clear Cell Focus	
	Leukemia Mononuclear	
* Lung	Hemorrhage	Mild
[ Hemorrhage TGLS = 4-4+5 ]		
* Mammary Gland	Carcinoma	
[ Carcinoma TGLS = 1-14+15 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		
* Spleen	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-16 ]		
* Thyroid Gland	C Cell	
	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:39  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 319

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 683

**DOSE:** 75 PPM

**DISP:** Natural Death

**HISTO:** 41488

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage

---

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 320

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41489

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**OBSERVATIONS**

* Bone [ Osteopetrosis TGLS = 7-14 ]	Tibia	Osteopetrosis	Moderate
* Eye [ Cataract TGLS = 1-13 ]	Lens	Cataract	Marked
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Mammary Gland [ Fibroadenoma TGLS = 2,6-15+18+19 ]		Fibroadenoma	
Mesentery [ Necrosis TGLS = 3,5-16+17 ]		Necrosis	Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland [ Adenoma TGLS = 8-10 ]		Adenoma	
* Spleen [ Degeneration TGLS = 4-20 ]		Degeneration	Minimal

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 321

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41490

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
	Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 4-6 ]		
* Mammary Gland	Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 2,5-15+16 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 3-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 1-10 ]		
* Thyroid Gland	C Cell	Hyperplasia
		Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 322

TRT#: 4

DOSE: 75 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 730

HISTO: 41491

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
* Clitoral Gland		Cyst	Marked
		Hyperplasia	Marked
[ Cyst TGLS = 1-17+18 ]			
[ Hyperplasia TGLS = 1-17+18 ]			
* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet	Moderate
	Pelvis, Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 6-16 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]			
* Mammary Gland		Adenoma	
		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,3-14+15+17 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 322

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41491

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Spleen		Leukemia Mononuclear	
* Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 323

TRT#: 4

SEX: Female

DAY ON TEST: 681

DOSE: 75 PPM

DISP: Natural Death

HISTO: 41492

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Intestine Large, Colon	* Intestine Large, Rectum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Heart	Atrium	Cardiomyopathy	Moderate
		Thrombosis	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Necrosis	Marked
* Lymph Node, Mediastinal		Hemorrhage	Moderate
[ Hemorrhage TGLS = 3-3 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

- Heart Atrium Thrombosis

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 324

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41493

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

\* Lymph Node, Bronchial

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Eye	Lens	Cataract	Moderate
[ Cataract TGLS = 1-13 ]			
* Liver		Basophilic Focus	
[ Hepatodiaphragmatic Nodule TGLS = 3-17 ]		Hepatodiaphragmatic Nodule	Marked
* Lymph Node, Mandibular		Ectasia	Marked
[ Ectasia TGLS = 2-14 ]			
Mesentery		Necrosis	Marked
[ Necrosis TGLS = 4,6-15+16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 325

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41494

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Carcinoma Vacuolization Cytoplasmic	Marked
Note: ac tissue outside capsule, looks to be invading vessel. diff dx accessory ac +tangential cut.			
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
* Lung	Interstitialium	Fibrosis	Mild
	Alveolar Epith	Hyperplasia	Mild
* Parathyroid Gl			
Note: step sections of slide 3, rechecked wet tissues, could not find tgl2.			
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 1-10 ]	
Pleura		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 326

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41495

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 6,7,8-6+14+15 ]			
* Mammary Gland		Fibroadenoma	Multiple
		Galactocele	Marked
[ Fibroadenoma TGLS = 3,4,5-17+18+19+9 ]			
[ Galactocele TGLS = 9-20+9 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 1-16 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 327

TRT#: 4

DOSE: 75 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 732

HISTO: 41496

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Mammary Gland		Galactocele	Marked
[ Galactocele TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 328

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41497

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Lung
* Lymph Node, Mesenteric	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Larynx	Foreign Body	Marked
	Inflammation	Suppurative, Mild
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6 ]		
* Lymph Node, Mediastinal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]		
* Mammary Gland	Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,3-14+15+16+17 ]		
* Pituitary Gland	Hyperplasia	Marked
* Spleen	Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 329	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 732
	<b>DOSE:</b> 75 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41498

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

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**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Clear Cell Focus	
	Hepatodiaphragmatic Nodule	Marked
	Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 2,3-14+15 ]		
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 1-16 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 4-10 ]		
* Spleen	Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 330

TRT#: 4

SEX: Female

DAY ON TEST: 660

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41499

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis, Transit Epithe	Hyperplasia Nephropathy	Minimal Chronic, Marked
[ Nephropathy TGLS = 3-7 ]			
* Liver		Basophilic Focus Fatty Change Vacuolization Cytoplasmic	Mild Moderate
[ Vacuolization Cytoplasmic TGLS = 6-6 ]			
* Lung	Alveolus	Infiltration Cellular Hemorrhage	Histiocyte, Minimal Moderate
* Lymph Node, Mesenteric			
[ Hemorrhage TGLS = 5-8 ]			
* Mammary Gland		Fibroadenoma Galactocele	Marked
[ Fibroadenoma TGLS = 1-14 ]			
[ Galactocele TGLS = 7-16 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 330	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 660
	<b>DOSE:</b> 75 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41499

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Marked
PRIMARY CAUSE OF DEATH	- Pituitary Gland	Adenoma	

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 331

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41500

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Adenoma	
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Accessory Spleen	Moderate
[ Accessory Spleen TGLS = 2-14 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 332

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41501

**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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Parathyroid Gland
* Zymbal's Gland			

**OBSERVATIONS**

* Adrenal Cortex	Adenoma	
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]		
* Mammary Gland	Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,4-14+15+16 ]		
* Spleen	Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 333

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41502

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* 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	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear Adenoma	Minimal Chronic, Minimal
* Liver			
* Pituitary Gland [ Adenoma TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	Follicular Cel	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 334

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41503

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland	Cyst	Marked
	Hyperplasia	Marked
[ Cyst TGLS = 2-14 ]		
[ Hyperplasia TGLS = 2-14 ]		
* Liver	Basophilic Focus	
* Lym Node Media		
Note: tgl 4 not found at histo. rar		
* Mammary Gland	Fibroadenoma	
	Galactocele	Marked
[ Fibroadenoma TGLS = 1-15 ]		
[ Galactocele TGLS = 7-16 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 5-18 ]		
* Skin	Inflammation	Chronic, Marked
[ Inflammation TGLS = 3-14 ]		
* Uterus	Polyp Stromal	
[ Polyp Stromal TGLS = 6-19 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 334

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41503

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 335

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41504

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	* Larynx	* Lymph Node, Mediastinal	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Bronchiole	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 1-14 ]	
* Pituitary Gland		Adenoma	
		[ Adenoma TGLS = 2-10 ]	
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 336

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 722

**DOSE:** 75 PPM

**DISP:** Natural Death

**HISTO:** 41505

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Liver
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 1-14+15 ]		
* Ovary	Cyst	Marked
[ Cyst TGLS = 4-9 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 3-10 ]		

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 337

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 410

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41506

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Liver	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain		Compression	
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	

[ Adenoma TGLS = 1-10 ]

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 338

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41507

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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 5-17 ]			
* Lung		Hemorrhage	Mild
	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 1-15+16 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-18 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 338

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41507

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 339

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41508

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland [ Inflammation TGLS = 1-9 ]		Inflammation	Chronic, Moderate
* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear Infiltration Cellular	Minimal Chronic, Minimal
* Liver		Fibroadenoma	
* Lymph Node, Mediastinal [ Infiltration Cellular TGLS = 3-3 ]		Necrosis	Histiocyte, Marked
* Mammary Gland [ Fibroadenoma TGLS = 2-16 ]			
Mesentery [ Necrosis TGLS = 4-15 ]			Moderate
* Nose	Olfactory Epi	Degeneration Adenoma	Hyaline, Moderate
* Pituitary Gland [ Adenoma TGLS = 7-10 ]			
* Spleen		Leukemia Mononuclear	
* Uterus [ Polyp Stromal TGLS = 5-10 ]		Polyp Stromal	
* Zymbal's Gland		Carcinoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 339

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41508

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Carcinoma TGLS = 6-14 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 340

TRT#: 4

SEX: Female

DAY ON TEST: 656

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41509

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 341

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41510

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lym Node Media			
Note: tgl 1 not present, In normal at histo. rar			
Mesentery	Fat	Hemorrhage	Moderate
[ Hemorrhage TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus	Endometrium	Adenoma	
[ Adenoma TGLS = 4-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 342

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 642

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41511

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
* Mammary Gland	Fibroadenoma	
[ Fibroadenoma TGLS = 1,2-14+15+16+17+18 ]		
* Ovary	Cyst	Marked
[ Cyst TGLS = 3-19 ]		
* Pituitary Gland	Hyperplasia	Moderate

**PRIMARY CAUSE OF DEATH** - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 343

TRT#: 4

DOSE: 75 PPM

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 726

HISTO: 41512

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	
		Hemorrhage	Mild
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 5,6,7-16+17+18 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2-14+15 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Minimal
[ Inflammation TGLS = 3-5 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 344

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41513

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
	Clear Cell Focus	
	Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 1-15 ]		
Mesentery	Necrosis	Moderate
[ Necrosis TGLS = 2-14 ]		
* Nose	Olfactory Epi	Hyaline, Mild
* Thyroid Gland	C Cell	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 345

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 75 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41514

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 2-15 ]			
[ Leukemia Mononuclear TGLS = 3-16 ]			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Angiectasis	Moderate
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 346

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41515

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 2-16 ]		
Mesentery	Necrosis	Mild
[ Necrosis TGLS = 3-14 ]		
* Ovary	Cystadenocarcinoma	
[ Cystadenocarcinoma TGLS = 1-17 ]		
* Pituitary Gland	Hyperplasia	Marked
Pleura	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 4,5-5+15 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 347

TRT#: 4

SEX: Female

DAY ON TEST: 621

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41516

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
* Eye	Lens	Cataract	Marked
	Lens	Mineralization	Marked
[ Cataract TGLS = 2-13 ]			
[ Mineralization TGLS = 2-13 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Lymph Node, Mediastinal		Pigmentation	Moderate
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 348

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 75 PPM

DISP: Terminal Sacrifice

HISTO: 41517

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland [ Carcinoma TGLS = 2-14 ]		Carcinoma	
* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear	Minimal Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 1-3 ]			
* Mammary Gland [ Fibroadenoma TGLS = 3-15 ]		Fibroadenoma	
* Ovary [ Cyst TGLS = 4-9 ]		Cyst	Marked
* Pituitary Gland		Hyperplasia	Moderate
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 349

TRT#: 4

SEX: Female

DAY ON TEST: 642

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41518

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
Mesentery	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
Tissue NOS	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Atrophy	Marked
		Carcinoma	
[ Carcinoma TGLS = 5-14+15 ]			
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis, Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-18 ]			
* Lung		Carcinoma	Metastatic (Adrenal Cortex)
[ Carcinoma TGLS = 1-4+5 ]			
Mesentery			
Note: tgl 6 not a lesion. rar			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-16 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 349

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 642

**DOSE:** 75 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41518

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Adrenal Cortex Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 350

TRT#: 4

SEX: Female

DAY ON TEST: 725

DOSE: 75 PPM

DISP: Moribund Sacrifice

HISTO: 41519

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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
Note: tgl 3 not present at micro exam. rar			
* Lymph Node, Mesenteric		Fibrosis	Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 501

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41370

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 502

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 692

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41371

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Zymbal's Gland
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**OBSERVATIONS**

* Heart			
Note: tgl 2 no corresponding lesion on heart.			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Marked
[ Leukemia Mononuclear TGLS = 4-6 ]			
[ Vacuolization Cytoplasmic TGLS = 5-15 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Granulosa Cell Tumor Malignant	
[ Granulosa Cell Tumor Malignant TGLS = 7-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-14 ]			
* Stomach, Forestomach		Ulcer	Marked

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear  
**CONTRIBUTORY CAUSE OF DEATH** - Pituitary Gland Adenoma;Stomach;Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 502

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 692

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41371

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 503

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41372

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus	Minimal Chronic, Mild
* Liver		Fibrosis	Mild
* Lung	Interstitialium Alveolus Alveolus	Infiltration Cellular Proteinosis	Histiocyte, Mild Minimal
* Nose	Olfactory Epi Nasolacrim Dct	Degeneration Inflammation Adenoma	Hyaline, Moderate Suppurative, Moderate
* Pituitary Gland [ Adenoma TGLS = 2-10 ]			
Pleura		Inflammation	Chronic, Mild
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 504

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41373

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Minimal
[ Hepatodiaphragmatic Nodule TGLS = 5-6 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,7,8-14+15+17+18 ]			
Mesentery		Necrosis	Minimal
[ Necrosis TGLS = 6-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Ovary		Cyst	Marked
[ Cyst TGLS = 4-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 505

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 637

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:** 41374

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Islets, Pancreatic	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**AUTO PRECLUDES DIAG.**

* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Brain		Compression	Marked
		Hemorrhage	Marked
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-6 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 4-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
	[ Adenoma TGLS = 2-10 ]		
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

**CONTRIBUTORY CAUSE OF DEATH**

- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 506

TRT#: 6

SEX: Female

DAY ON TEST: 670

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41375

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Skin	Subcut Tiss	Lipoma	
[ Lipoma TGLS = 2-14 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 507

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41376

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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

OBSERVATIONS

* Adrenal Cortex		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lymph Node, Mandibular		Ectasia	Marked
		Leukemia Mononuclear	
[ Ectasia TGLS = 1-9 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 508

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41377

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Clitoral Gland		Hyperplasia Inflammation	Marked Chronic, Marked
[ Hyperplasia TGLS = 3-16 ]			
[ Inflammation TGLS = 3-16 ]			
* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear	Minimal Chronic, Marked
* Liver		Fibroadenoma Necrosis	Moderate
[ Necrosis TGLS = 5-17 ]			
* Nose	Olfactory Epi Nasolacrim Dct	Degeneration Inflammation Adenoma	Hyaline, Moderate Suppurative, Moderate
* Pituitary Gland		Leukemia Mononuclear Polyp Stromal	
[ Adenoma TGLS = 2-10 ]			
* Spleen			
* Uterus			
[ Polyp Stromal TGLS = 4-14+15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 508

**TRT#:** 6  
**DOSE:** 300 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 41377

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 509

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41378

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]			
* Lung	Interstitial	Fibrosis	Mild
		Inflammation	Chronic, Minimal
	Alveolus	Proteinosis	Minimal
[ Fibrosis TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 3-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 1-10 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 510

**TRT#:** 6  
**DOSE:** 300 PPM

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 698  
**HISTO:** 41379

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung	Interstitialium	Fibrosis	Mild
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4+5 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Angiectasis	Mild
[ Angiectasis TGLS = 2-10 ]			
* Skin		Hyperkeratosis	Minimal
[ Hyperkeratosis TGLS = 1-16 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 510

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 698

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41379

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Stom Gland

Note: tgl 8 no corresponding lesion.

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 511

TRT#: 6

SEX: Female

DAY ON TEST: 617

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41380

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Uterus	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Heart	Epicardium	Inflammation	Chronic, Marked
* Kidney	Renal Tubule	Mineralization	Moderate
[ Mineralization TGLS = 4-15 ]			
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Squamous Cell Carcinoma	
* Lung			
[ Squamous Cell Carcinoma TGLS = 2-14 ]			
* Lymph Node, Mediastinal		Squamous Cell Carcinoma	Metastatic (Lung)
[ Squamous Cell Carcinoma TGLS = 3-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	
* Urinary Bladder	Transit Epithe	Mineralization	Moderate
		Ulcer	Moderate

PRIMARY CAUSE OF DEATH

- Lung Squamous Cell Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 512

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 646

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41381

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain		Compression	
* Clitoral Gland		Inflammation	Chronic, Marked
[ Inflammation TGLS = 2-14 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-15 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Spleen		Leukemia Mononuclear	
* Uterus		Polyp Stromal	

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 513

TRT#: 6

SEX: Female

DAY ON TEST: 712

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Heart	Myocardium	Necrosis	Mild
[ Necrosis TGLS = 1-6 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]			
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 4-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Spleen		Leukemia Mononuclear	
* Stomach, Forestomach		Ulcer	Marked

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Heart Myocardium Necrosis;Stomach;Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 513

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 712

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41382

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 514

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41383

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1-15+16 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 515

TRT#: 6

SEX: Female

DAY ON TEST: 634

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41384

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Mild
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 5-6 ]			
[ Hepatodiaphragmatic Nodule TGLS = 4-6 ]			
[ Leukemia Mononuclear TGLS = 3,5-6+15 ]			
* Lung			
Note: tgl 6 no corresponding lesion.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 516

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 559

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41385

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Leukemia Mononuclear Nephropathy	Chronic, Minimal
[ Leukemia Mononuclear TGLS = 7-14 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6 ]			
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Skin		Cyst Epithelial Inclusion	Marked
[ Cyst Epithelial Inclusion TGLS = 8-17 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-16 ]			
* Urin Bladder			
Note: tgl 4 no corresponding lesion.			
* Uterus		Necrosis Polyp Stromal	Marked
[ Necrosis TGLS = 2-15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 516

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 559

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41385

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Polyp Stromal TGLS = 2-15 ]

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear; Uterus Necrosis

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 517

TRT#: 6

SEX: Female

DAY ON TEST: 509

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41386

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 2-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Foreign Body	Moderate
		Inflammation	Suppurative, Moderate
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 518

TRT#: 6

DOSE: 300 PPM

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 523

HISTO: 41387

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Hemorrhage	Marked
[ Hemorrhage TGLS = 4,9-1 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-16 ]			
[ Leukemia Mononuclear TGLS = 3-15 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-8 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 10-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6,7-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 518

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 523

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41387

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 519

TRT#: 6

DOSE: 300 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41388

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus Leukemia Mononuclear	Minimal Chronic, Moderate
* Liver			
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Alveolus	Infiltration Cellular Leukemia Mononuclear Galactoceles	Histiocyte, Moderate Marked
* Mammary Gland			
[ Galactoceles TGLS = 5-14 ]			
* Nose	Olfactory Epi	Degeneration Adenoma	Hyaline, Minimal
* Pituitary Gland			
[ Adenoma TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Thyroid Gland	C Cell	Hyperplasia	Marked
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 520

TRT#: 6

SEX: Female

DAY ON TEST: 698

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41389

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex	Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla	Hyperplasia	Marked
* Kidney	Nephropathy	Chronic, Minimal
* Liver	Basophilic Focus	
	Clear Cell Focus	
	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2,3-15+16 ]		
* Lung		
Note: 8 step sections on slide 5; no lesion found.		
* Lymph Node, Bronchial	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]		
* Lymph Node, Mediastinal	Inflammation	Suppurative, Mild
* Pituitary Gland	Adenoma	
* Spleen	Leukemia Mononuclear	
* Uterus	Polyp Stromal	
	Sarcoma Stromal	
[ Sarcoma Stromal TGLS = 4-17+18+19 ]		

PRIMARY CAUSE OF DEATH

- Uterus Sarcoma Stromal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 520

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 698

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41389

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 521

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41390

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
	Leukemia Mononuclear	
Mesentery	Necrosis	Mild
[ Necrosis TGLS = 1-14 ]		
* Pituitary Gland	Adenoma	
[ Adenoma TGLS = 2-10 ]		
* Spleen	Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 522

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41391

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Larynx		Inflammation	Suppurative, Mild
	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-15+16+17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pancreas		Cyst	Marked
[ Cyst TGLS = 3-14 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 523

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41392

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 524

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41393

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

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	* Larynx
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Adrenal Medulla		Hyperplasia	Moderate
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4+5 ]		Metaplasia	Osseous, Minimal
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-14 ]			
* Stomach, Forestomach		Inflammation	Suppurative, Moderate
[ Inflammation TGLS = 5-10 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 524

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41393

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 525

TRT#: 6

SEX: Female

DAY ON TEST: 682

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41394

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14+15+16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Hyperplasia	Moderate
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

- Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 526

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 507

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41395

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain		Hemorrhage	Marked
[ Hemorrhage TGLS = 2-1 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 3-14 ]		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

- Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 527

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 712

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41396

**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
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

**MISSING**

* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Brain	Pineal Gland	Carcinoma	
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Vacuolization Cytoplasmic	Marked
[ Clear Cell Focus TGLS = 5,6-17+18 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-14+15+16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Ovary		Hemorrhage	Moderate
[ Hemorrhage TGLS = 3-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Mild
* Stomach, Forestomach		Ulcer	Marked

**PRIMARY CAUSE OF DEATH** - Brain Pineal Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 527

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 712

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41396

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Adenoma;Stomach;Forestomach Ulcer

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 528

TRT#: 6

SEX: Female

DAY ON TEST: 528

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41397

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Moderate
		Hemorrhage	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
		Vacuolization Cytoplasmic	Marked
[ Hepatodiaphragmatic Nodule TGLS = 4-14 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Stomach, Forestomach		Ulcer	Marked
[ Ulcer TGLS = 5-15 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Brain Hemorrhage;Stomach;Forestomach Ulcer

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 529

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41398

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain	Medulla	Gliosis	Focal, Moderate
* Heart	Myocardium	Degeneration	Moderate
[ Degeneration TGLS = 3-14 ]			
* Kidney		Nephropathy	Chronic, Marked
[ Nephropathy TGLS = 4-15 ]			
* Liver		Basophilic Focus	
[ Clear Cell Focus TGLS = 2-6 ]		Clear Cell Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
		Inflammation	Suppurative, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Thyroid Gland	C Cell	Hyperplasia	Marked
* Zymbal's Gland		Cyst	Mild
		Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 530

TRT#: 6

DOSE: 300 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41399

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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Angiectasis	Mild
		Basophilic Focus	
[ Angiectasis TGLS = 5-14 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Mammary Gland		Carcinoma	
		Fibroadenoma	Multiple
[ Carcinoma TGLS = 1-9 ]			
[ Fibroadenoma TGLS = 2,3-16+17 ]			
Mesentery		Necrosis	Minimal
[ Necrosis TGLS = 4-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
Pleura		Inflammation	Chronic, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 531

TRT#: 6

DOSE: 300 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 732

HISTO: 41400

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 3-14 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Mediastinum	Inflammation	Granulomatous, Mild
* Mammary Gland		Fibroadenoma	
		Galactocele	Marked
[ Fibroadenoma TGLS = 3-14 ]			
[ Galactocele TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 532

TRT#: 6

SEX: Female

DAY ON TEST: 709

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41401

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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Brain		Hemorrhage	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 6,7,8-6+15 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 4-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 5-10 ]			
* Skin		Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

CONTRIBUTORY CAUSE OF DEATH - Brain Hemorrhage

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 533

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41402

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Kidney	Pelvis	Mineralization Nephropathy Basophilic Focus	Minimal Chronic, Mild
* Liver		Hyperplasia	Mild
* Lung	Alveolar Epith Alveolus	Infiltration Cellular Inflammation	Histiocyte, Mild Chronic, Minimal
	Alveolus	Proteinosis	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 2-14 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 534

TRT#: 6

SEX: Female

DAY ON TEST: 610

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41403

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                          |
|---------------------------|-----------------------------|--------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | Blood Vessel             | * 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 | * Islets, Pancreatic     |
| * Kidney                  | * Larynx                    | * Lung                   | * Lymph Node, Mesenteric |
| * Ovary                   | * Pancreas                  | * Parathyroid Gland      | * Pituitary Gland        |
| Pleura                    | * Salivary Glands           | * Skin                   | * Spleen                 |
| * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 | * Thyroid Gland          |
| * Trachea                 | * Urinary Bladder           | * Uterus                 |                          |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

AUTO PRECLUDES DIAG.

- \* Intestine Small, Jejunum

OBSERVATIONS

- |  |                |                       |                    |
|--|----------------|-----------------------|--------------------|
| * Eye  |                | Atrophy               | Marked             |
|  | Lens           | Cataract              | Moderate           |
| [ Atrophy TGLS = 1-13 ]                            |                |                       |                    |
| [ Cataract TGLS = 1-13 ]                           |                |                       |                    |
| * Liver  |                | Basophilic Focus      |                    |
|  |                | Clear Cell Focus      |                    |
| [ Clear Cell Focus TGLS = 5,6-6+15 ]               |                |                       |                    |
| * Lymph Node, Mediastinal                          |                | Infiltration Cellular | Histiocyte, Marked |
| [ Infiltration Cellular TGLS = 7-3 ]               |                |                       |                    |
| * Mammary Gland                                    |                | Fibroadenoma          |                    |
| [ Fibroadenoma TGLS = 4-17 ]                       |                |                       |                    |
| * Nose   | Olfactory Epi  | Degeneration          | Hyaline, Moderate  |
|  | Nasolacrim Dct | Inflammation          | Suppurative, Mild  |
| * Stom Forestom                                    |                |                       |                    |
| Note: tgl 8 no corresponding lesion at histo exam. |                |                       |                    |
| * Zymbal's Gland                                   |                | Carcinoma             |                    |

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 534

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 610

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41403

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Carcinoma TGLS = 3-14+16 ]

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PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 535

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41404

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Angiectasis	Moderate
		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
		[ Angiectasis TGLS = 4-14 ]	
		[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 1-15 ]	
Mesentery		Necrosis	Moderate
		[ Necrosis TGLS = 2-16 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Hyperplasia	Mild
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
* Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 535

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41404

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 536

TRT#: 6

SEX: Female

DAY ON TEST: 593

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41405

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	Skeletal Muscle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Infiltration Cellular	Histiocyte, Moderate
[ Infiltration Cellular TGLS = 2-3 ]			
Mesentery		Carcinoma	Metastatic (Ovary)
[ Carcinoma TGLS = 3-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Inflammation	Suppurative, Moderate
* Ovary		Cystadenocarcinoma	
[ Cystadenocarcinoma TGLS = 1-14+15+16 ]			
* Pituitary Gland		Hyperplasia	Moderate
Skel Muscle			
Note: tgl 4 no corresponding lesion.			
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
[ Adenoma TGLS = 5-3 ]			

PRIMARY CAUSE OF DEATH - Ovary Cystadenocarcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 536

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 593

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41405

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 537

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41406

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Clear Cell Focus TGLS = 4,5-6+15 ]			
* Lung	Interstitial	Fibrosis	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Inflammation	Chronic, Moderate
[ Infiltration Cellular TGLS = 2-14 ]			
* Lymph Node, Mediastinal		Infiltration Cellular	Histiocyte, Marked
[ Infiltration Cellular TGLS = 1-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Marked
[ Cyst TGLS = 6-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-14 ]			
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 537

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41406

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 538

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41407

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Nasolacrim Dct	Inflammation	Suppurative, Moderate
Pleura		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 539

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41408

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Liver		Basophilic Focus Leukemia Mononuclear	
* Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular	Minimal Histiocyte, Minimal
	[ Hyperplasia TGLS = 2-5 ] [ Infiltration Cellular TGLS = 3-5 ]		
* Nose Pleura	Olfactory Epi	Degeneration Inflammation	Hyaline, Minimal Chronic, Minimal
	[ Inflammation TGLS = 3-5 ]		
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Bilateral	Polyp Stromal	
	[ Polyp Stromal TGLS = 1-10 ]		

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 540

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41409

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Kidney	Pelvis	Mineralization Nephropathy	Minimal Chronic, Minimal
* Liver		Basophilic Focus	
* Lymph Node, Mediastinal [ Infiltration Cellular TGLS = 1-3 ]		Infiltration Cellular	Histiocyte, Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 3-10 ]		Adenoma	
* Skin [ Neural Crest Tumor TGLS = 2-14 ]	Eyelid	Neural Crest Tumor	
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 541

TRT#: 6

DOSE: 300 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 731

HISTO: 41410

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Clitoral Gland		Hyperplasia	Moderate
* Eye		Atrophy	Marked
	Lens	Cataract	Marked
	Cornea	Inflammation	Chronic, Minimal
			[ Atrophy TGLS = 1-13 ]
			[ Cataract TGLS = 1-13 ]
* Heart		Cardiomyopathy	Mild
* Kidney	Cortex, Renal Tubule	Hyperplasia	Marked
	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Necrosis	Marked
			[ Necrosis TGLS = 2-6 ]
Mesentery		Necrosis	Mild
			[ Necrosis TGLS = 3-14 ]
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 541	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 731
	<b>DOSE:</b> 300 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41410

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Uterus	Endometrium	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 542

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41411

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Adrenal Cortex		Hemorrhage	Mild
* Eye	Antr Chamber, Sclera	Inflammation	Suppurative, Marked
		Phthisis Bulbi	
[ Inflammation TGLS = 1-13 ]			
* Liver		Basophilic Focus	
		Inflammation	Granulomatous, Moderate
* Lymph Node, Mediastinal		Fibrosis	Mild
		Infiltration Cellular	Histiocyte, Mild
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Hemorrhage	Marked
[ Hemorrhage TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 543

TRT#: 6

SEX: Female

DAY ON TEST: 646

DOSE: 300 PPM

DISP: Moribund Sacrifice

HISTO: 41412

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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Brain		Compression	
		Hemorrhage	Moderate
[ Hemorrhage TGLS = 3-1 ]			
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Marked

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 544

**TRT#:** 6  
**DOSE:** 300 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 41413

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Larynx	Epiglottis, Respirat Epith	Degeneration	Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 3-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLS = 1,2-5+14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 545

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 576

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41414

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain	Compression	
* Kidney	Nephropathy	Chronic, Mild
* Liver	Basophilic Focus	
* Nose	Olfactory Epi	Hyaline, Moderate
* Pituitary Gland	Degeneration	
	Adenoma	

[ Adenoma TGLS = 3-10 ]

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 546

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41415

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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
Lymph Node	Deep Cervical	Infiltration Cellular	Histiocyte, Mild
[ Infiltration Cellular TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
Pleura		Inflammation	Chronic, Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3-14 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 547

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 300 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41416

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular	Mild Histiocyte, Mild
[ Hyperplasia TGLS = 4-5 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,3-14+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 548

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 300 PPM

DISP: Terminal Sacrifice

HISTO: 41417

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland [ Cyst TGLS = 2-9 ]		Cyst	Minimal
* Kidney		Nephropathy	Chronic, Mild
* Liver [ Hepatodiaphragmatic Nodule TGLS = 1-6 ]		Basophilic Focus Hepatodiaphragmatic Nodule	Marked
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
		Foreign Body	Moderate
		Inflammation	Suppurative, Mild
* Pituitary Gland		Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 549

**TRT#:** 6  
**DOSE:** 300 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 41418

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye [ Cataract TGLS = 2-13 ]	Lens	Cataract	Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Angiectasis	Mild
		Basophilic Focus	
* Lung [ Hyperplasia TGLS = 3-14 ]	Alveolar Epith	Hyperplasia	Mild
* Lymph Node, Mediastinal [ Angiectasis TGLS = 1-3 ]		Angiectasis	Marked
* Mammary Gland [ Fibroadenoma TGLS = 4-15 ]		Fibroadenoma	
* Nose	Olfactory Epi Respirat Epith	Degeneration Hyperplasia Inflammation	Hyaline, Marked Mild Suppurative, Moderate
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 550

TRT#: 6

SEX: Female

DAY ON TEST: 471

DOSE: 300 PPM

DISP: Natural Death

HISTO: 41419

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Uterus	* Zymbal's Gland

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Renal Tubule	Mineralization	Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Squamous Cell Carcinoma	Metastatic (Lung)
		Squamous Cell Carcinoma	
		[ Squamous Cell Carcinoma TGLS = 2-4 ]	
		[ Squamous Cell Carcinoma TGLS = 3-5 ]	
* Lymph Node, Bronchial		Squamous Cell Carcinoma	Metastatic (Lung)
* Lymph Node, Mediastinal		Squamous Cell Carcinoma	Metastatic (Lung)
		[ Squamous Cell Carcinoma TGLS = 5-3 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
Skeletal Muscle		Squamous Cell Carcinoma	Metastatic (Lung)
		[ Squamous Cell Carcinoma TGLS = 4-14 ]	
* Urinary Bladder		Mineralization	Mild

PRIMARY CAUSE OF DEATH

- Lung Squamous Cell Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 701

TRT#: 8

SEX: Female

DAY ON TEST: 722

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41270

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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	Mild
[ Clear Cell Focus TGLS = 6-6+17 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 2,4-15+16+9 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
[ Cyst TGLS = 5-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
Tongue	Epithelium	Hyperkeratosis	Minimal
[ Hyperkeratosis TGLS = 1-14 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 702

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41271

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 4-18+6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14+15 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-17 ]			
* Nose	Olfactory Epi Glands Goblet Cell	Degeneration Dilatation Hyperplasia Adenoma	Hyaline, Marked Minimal Minimal
* Pituitary Gland		Inflammation	Chronic, Minimal
Pleura		Polyp Stromal	
* Uterus			
[ Polyp Stromal TGLS = 3-16 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 703

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41272

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Clitoral Gland		Cyst	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-8 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,3,4-14+15+9+16+17 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 6-18 ]			
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Marked Mild
* Pituitary Gland		Hyperplasia	Moderate
* Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 5-19 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 703

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41272

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 704

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 669

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41273

**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
* Larynx	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Minimal
* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 8-6+15 ]		
	[ Leukemia Mononuclear TGLS = 9-6 ]		
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Leukemia Mononuclear	
	[ Infiltration Cellular TGLS = 10-14 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-3 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-8 ]		
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 2,4-17+18 ]		
Mesentery		Necrosis	Moderate
	[ Necrosis TGLS = 6-19 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 704

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 669

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41273

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Pituitary Gland

[ Adenoma TGLS = 3-10 ]

Adenoma

Pleura

[ Inflammation TGLS = 10-14 ]

Inflammation

Chronic, Mild

\* Skin

[ Squamous Cell Papilloma TGLS = 11-20 ]

Squamous Cell Papilloma

\* Spleen

[ Leukemia Mononuclear TGLS = 5-16 ]

Leukemia Mononuclear

\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 705

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41274

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney	Pelvis	Mineralization Nephropathy	Minimal Chronic, Moderate
<p>Note: pattern of cin is multifocal, looks like infarcts, medullary tubules are dilated, no thrombi seen.          [ Nephropathy TGLS = 4-14+7 ]</p>			
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Deep Cervical	Leukemia Mononuclear	
<p>[ Leukemia Mononuclear TGLS = 1-17 ]</p>			
* Mammary Gland		Fibroadenoma	Multiple
<p>[ Fibroadenoma TGLS = 6,7-15+16 ]</p>			
Mesentery		Necrosis	Mild
<p>[ Necrosis TGLS = 5-18 ]</p>			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear	
<p>[ Leukemia Mononuclear TGLS = 2,3-6 ]</p>			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 705

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41274

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 706

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41275

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Hyperplasia Nephropathy	Minimal Chronic, Mild
* Liver		Basophilic Focus Clear Cell Focus	
	[ Clear Cell Focus TGLS = 2-15 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Note: hyaline stuff in ethmoturbs on slide 12, very photogenic.		
Pleura		Inflammation	Chronic, Minimal
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 707

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41276

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Eye	Cornea	Mineralization	Minimal
Note: NO CORRELATING LESION FOR TGLS 1-13.			
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
	[ Clear Cell Focus TGLS = 2,3-6+14 ]		
	Mesentery	Necrosis	Moderate
	[ Necrosis TGLS = 4-15 ]		
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Marked Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 708

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41277

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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Marked
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
		Necrosis	Marked
		[ Hepatodiaphragmatic Nodule TGLS = 5-6 ]	
		[ Necrosis TGLS = 5,6-6 ]	
* Lymph Node, Mediastinal		Angiectasis	Marked
		[ Angiectasis TGLS = 3-3 ]	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 2-14 ]	
Mesentery		Necrosis	Mild
		[ Necrosis TGLS = 7-15 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Goblet Cell	Hyperplasia	Mild
	Nasolacrim Dct	Inflammation	Suppurative, Moderate
* Pituitary Gland		Angiectasis	Marked
		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 708

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41277

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Angiectasis TGLS = 4-10 ]

[ Hyperplasia TGLS = 4-10 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 709

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 726

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41278

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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, Mediastinal	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Bone	Metatarsal	Fracture	Moderate
Note: tgl 13 no corresponding lesion on histo exam [ Fracture TGLS = 14-15 ]			
* Eye	Cornea	Mineralization	Minimal
* Kidney		Nephropathy	Chronic, Minimal
* Larynx		Inflammation	Suppurative, Mild
	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Hepatocellular Adenoma	
		Leukemia Mononuclear	
[ Hepatocellular Adenoma TGLS = 9-21 ] [ Leukemia Mononuclear TGLS = 7,8,10,16,17,18,19-21+6+23+20+22+24+25 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 15-4+5 ]			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-16 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-19 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 709

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 726

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41278

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
[ Cyst TGLS = 11-9 ]			
* Pituitary Gl			
Note: tgl 3 no corresponding lesion on histo exam.			
* Spleen		Fibrosis	Marked
		Leukemia Mononuclear	
[ Fibrosis TGLS = 5,6-18+17 ]			
[ Leukemia Mononuclear TGLS = 4-17 ]			
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 12-10 ]			

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 710

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41279

**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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye			
Note: tgl 1 no corresponding micro lesions			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 3-6 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
Pleura		Inflammation	Chronic, Minimal
[ Inflammation TGLS = 4-14 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 711

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41280

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Mild
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 8-6 ]		
	[ Leukemia Mononuclear TGLS = 9-6 ]		
* Lung		Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
	Alveolus	Proteinosis	Minimal
Note: tgl 4 no corresponding lesion on histo exam.			
Lymph Node	Deep Cervical	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-17 ]		
	[ Leukemia Mononuclear TGLS = 3-18 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-3 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 10-8+19 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-16 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 711	<b>TRT#:</b> 8 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 41280
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
Pleura [ Inflammation TGLS = 5-14 ]		Inflammation	Chronic, Mild
* Spleen [ Leukemia Mononuclear TGLS = 6-15 ]		Leukemia Mononuclear	
* Urinary Bladder [ Papilloma TGLS = 11-10 ]	Transit Epithe	Papilloma	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 712

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41281

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Adenoma	
* Eye			
Note: tgl 1 no corresponding micro lesion			
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 3-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus	Endometrium	Hyperplasia	Moderate
Note: step sections, found no nodule; focal hyperplasia of endometrium			
[ Hyperplasia TGLS = 4-10 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 713

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41282

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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex [ Accessory Adrenal Cortical Nodule TGLS = 4-7 ]		Accessory Adrenal Cortical Nodule	Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
Note: tgl 2 no corresponding micro lesion [ Clear Cell Focus TGLS = 3-14 ]			
* Lung [ Infiltration Cellular TGLS = 1-5 ]	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Nose Pleura	Olfactory Epi	Degeneration Inflammation	Hyaline, Marked Chronic, Minimal
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 714

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41283

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Zymbal's Gland	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Clitoral Gland [ Cyst TGLS = 1-15 ]		Cyst	Marked
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Inflammation	Granulomatous, Minimal
* Mammary Gland [ Fibroadenoma TGLS = 1-15 ] [ Galactocele TGLS = 3-16 ]		Fibroadenoma	
		Galactocele	Marked
* Nose Pleura [ Inflammation TGLS = 4-14 ]	Olfactory Epi	Degeneration	Hyaline, Marked
		Inflammation	Chronic, Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus [ Hyperplasia TGLS = 2-10 ]	Endometrium	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 715

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41284

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Medulla [ Pheochromocytoma Malignant TGLS = 1-7 ]		Pheochromocytoma Malignant	
* Kidney		Nephropathy	Chronic, Minimal
* Liver [ Basophilic Focus TGLS = 2-6 ]		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 716

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41285

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	Lacrimal Gland	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland		Inflammation	Chronic, Mild
[ Inflammation TGLS = 7-9 ]			
* Eye			
Note: tgl 3 no corresponding micro lesions.			
* Kidney		Nephropathy	Chronic, Minimal
* Larynx		Inflammation	Suppurative, Mild
	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-6 ]			
* Lung		Foreign Body	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
	Alveolus	Proteinosis	Minimal
[ Foreign Body TGLS = 10-15 ]			
[ Infiltration Cellular TGLS = 9-14 ]			
[ Inflammation TGLS = 9,10-14+15 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-20 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 716	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 732
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 41285

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Mammary Gland		Carcinoma Fibroadenoma	
[ Carcinoma TGLS = 2-18 ]			
[ Fibroadenoma TGLS = 1-17 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 8-19 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Hyperplasia	Marked
[ Hyperplasia TGLS = 4-10 ]			
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 9-14 ]			
* Skin		Inflammation	Chronic, Mild
[ Inflammation TGLS = 7-9 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-16 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 717

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41286

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Clitoral Gland [ Cyst TGLS = 2-9 ]		Cyst	Marked
* Eye Note: tgl 3 no corresponding micro lesion.			
* Kidney		Nephropathy	Chronic, Moderate
* Liver  [ Clear Cell Focus TGLS = 8-6 ]		Basophilic Focus Clear Cell Focus Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 7-3 ]		Leukemia Mononuclear	
* Mammary Gland [ Fibroadenoma TGLS = 1-14 ]		Fibroadenoma	
Mesentery [ Necrosis TGLS = 6-15 ]		Necrosis	Moderate
* Nose	Olfactory Epi Glands	Degeneration Dilatation	Hyaline, Marked Mild
* Ovary		Cyst	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 717

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41286

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Cyst TGLS = 5-9 ]

\* Pituitary Gland

Adenoma

[ Adenoma TGLS = 4-10 ]

\* Spleen

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 718

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41287

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	
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OBSERVATIONS

* Eye Note: tgl 1 no corresponding micro lesion.	Cornea	Mineralization	Minimal
* Kidney		Nephropathy	Chronic, Moderate
* Liver  Note: tgl 4 no corresponding micro lesion		Basophilic Focus	
		Clear Cell Focus	
* Lung [ Infiltration Cellular TGLS = 3-14 ]	Alveolus	Infiltration Cellular	Histiocyte, Minimal
Mesentery [ Necrosis TGLS = 2-15 ]		Necrosis	Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 719

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41288

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Accumulation, Hyaline Droplet Nephropathy	Marked Chronic, Mild
* Liver		Histiocytic Sarcoma	Metastatic (Skin)
[ Histiocytic Sarcoma TGLS = 4,5-6+15+16+17+18 ]			
* Lung		Histiocytic Sarcoma	Metastatic (Skin)
* Lymph Node, Bronchial		Histiocytic Sarcoma	Metastatic (Skin)
[ Histiocytic Sarcoma TGLS = 6-4 ]			
* Lymph Node, Mediastinal		Histiocytic Sarcoma	Metastatic (Skin)
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-19+20 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Skin	Subcut Tiss	Histiocytic Sarcoma	
[ Histiocytic Sarcoma TGLS = 2-21 ]			
* Spleen		Hematopoietic Cell Proliferation	Marked
[ Hematopoietic Cell Proliferation TGLS = 3-14 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 720

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41289

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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Eye	Cornea	Mineralization	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
	[ Clear Cell Focus TGLS = 2-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
Pleura		Inflammation	Chronic, Minimal
	[ Inflammation TGLS = 1-4+5 ]		
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 721

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 717

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41290

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Eye	* Harderian Gland	* Heart	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 5-17 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 2,3-14+15 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 4-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 722	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 675
	<b>DOSE:</b> 1200 PPM	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 41291

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

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**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye	Cornea	Mineralization	Mild
* Kidney	Pelvis	Mineralization	Minimal
		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
Note: NO CORRELATING LESION FOR TGLS 4-15.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Skin	Subcut Tiss	Hemorrhage	Minimal
[ Hemorrhage TGLS = 2-14 ]			

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**PRIMARY CAUSE OF DEATH** - Pituitary Gland Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 723

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41292

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* 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	Lacrimal Gland	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Brain		Compression	Mild
* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
[ Hyperplasia TGLS = 2-14 ]			
[ Infiltration Cellular TGLS = 3-5 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,4-16+17 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 5-18 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 6-10 ]			
Pleura		Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 723

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41292

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Inflammation TGLS = 2,7-14+15 ]

\* Spleen

Leukemia Mononuclear

Urethra

Transit Epithe

Hyperplasia

Moderate

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 724

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 283

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41293

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Islets, Pancreatic	* Kidney
* Larynx	* Liver	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Pituitary Gland	* Stomach, Forestomach
* Stomach, Glandular			

**OBSERVATIONS**

* Brain		Hemorrhage	Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Uterus	Endometrium	Ulcer	Minimal

[ Ulcer TGLS = 1-14 ]

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 725

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41294

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Clitoral Gland		Cyst	Marked
* Eye			
Note: tgl 1 no corresponding micro lesion			
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Interstitium	Fibrosis	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Inflammation	Chronic, Mild
[ Infiltration Cellular TGLS = 6,7-14+15 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 5-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Ovary		Cyst	Minimal
[ Cyst TGLS = 3-9 ]			
* Pituitary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 725

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41294

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-10 ]

Pleura

Inflammation

Chronic, Moderate

[ Inflammation TGLS = 6,7-14+15 ]

\* Spleen

Leukemia Mononuclear

\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 726

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41295

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lung	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Eye	Lens	Cataract	Moderate
	Cornea	Inflammation	Chronic, Mild
	Cornea	Mineralization	Mild
Note: tgl 3 no corresponding micro lesion			
[ Cataract TGLS = 2-13 ]			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 7-6 ]			
[ Leukemia Mononuclear TGLS = 6-6 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-3 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 8,9-14+15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 726

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41295

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**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Nose

Olfactory Epi

Degeneration

Hyaline, Moderate

Pleura

Inflammation

Chronic, Minimal

\* Spleen

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 727

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41296

**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
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland
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**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 4,5-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3-10 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 728

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41297

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Clitoral Gland [ Hyperplasia TGLS = 7-9 ]		Hyperplasia	Moderate
* Eye	Cornea	Mineralization	Minimal
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Inflammation	Granulomatous, Mild
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 4-6 ]			
* Lung	Alveolar Epith Alveolus	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
[ Infiltration Cellular TGLS = 6-14 ]			
* Mammary Gland [ Fibroadenoma TGLS = 1,2,5-15+16+17 ]		Fibroadenoma	Multiple
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland [ Adenoma TGLS = 3-10 ]		Adenoma	
Pleura		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 728

**TRT#:** 8  
**DOSE:** 1200 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 41297

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Spleen Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 729

TRT#: 8

SEX: Female

DAY ON TEST: 586

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41298

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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OBSERVATIONS

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 2-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 730

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41299

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

\* Lymph Node, Mandibular

**OBSERVATIONS**

* Eye [ Edema TGLS = 2-13 ]	Cornea	Edema	Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
* Lung [ Infiltration Cellular TGLS = 3-5 ]	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lymph Node, Bronchial [ Angiectasis TGLS = 1-3 ]		Angiectasis	Moderate
* Lymph Node, Mediastinal		Angiectasis	Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 731

TRT#: 8

SEX: Female

DAY ON TEST: 550

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41300

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Cortex	Infarct Nephropathy	Marked Chronic, Moderate
[ Infarct TGLS = 6-7 ]			
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-6 ]			
* Lung	Alveolus	Infiltration Cellular Leukemia Mononuclear Leukemia Mononuclear	Histiocyte, Minimal
* Lymph Node, Mesenteric			
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland		Cyst	Marked
[ Cyst TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal
* Spleen		Leukemia Mononuclear Necrosis	Marked
[ Leukemia Mononuclear TGLS = 2-14 ]			
[ Necrosis TGLS = 3-14 ]			
* Stomach, Forestomach		Erosion	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 731

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 550

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41300

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Erosion TGLS = 7-10+15 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Cyst

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 732

TRT#: 8

SEX: Female

DAY ON TEST: 684

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41301

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	Blood Vessel	* 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	* Larynx
* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Adenoma	
* Clitoral Gland		Hyperplasia	Marked
[ Hyperplasia TGLS = 2-9 ]			
* Eye	Cornea	Mineralization	Mild
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 7,8-6+14 ]		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Angiectasis	Mild
[ Angiectasis TGLS = 5-10 ]			
* Skin	Subcut Tiss	Fibrosarcoma	
[ Fibrosarcoma TGLS = 3,4-15 ]			
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 733

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41302

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney	Nephropathy	Chronic, Moderate
* Liver	Basophilic Focus	
	Clear Cell Focus	
[ Clear Cell Focus TGLS = 2-15 ]		
Mesentery	Necrosis	Minimal
[ Necrosis TGLS = 1-14 ]		
* Nose	Olfactory Epi	Hyaline, Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Propylene glycol mono-t-butyl ether

**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014

**Time Report Requested:** 10:49:40

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 734

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41303

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 4-16 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLS = 2-5 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
[ Cyst TGLS = 1-14 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 735

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 555

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41304

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	Pleura	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Zymbal's Gland	

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye	Cornea	Mineralization	Minimal
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
		Thrombosis	Marked
Note: NO CORRLATING LESION FOR TGLS 8-18.			
		[ Leukemia Mononuclear TGLS = 6-6 ]	
Lymph Node	Deep Cervical	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 2-16 ]	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-3 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Spleen		Leukemia Mononuclear	
		Necrosis	Marked
		[ Leukemia Mononuclear TGLS = 4-14 ]	
		[ Necrosis TGLS = 5-15 ]	
* Uterus		Hemorrhage	Marked
		Polyp Stromal	
		[ Hemorrhage TGLS = 7-17 ]	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 735

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 555

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41304

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Polyp Stromal TGLS = 7-17 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Liver Thrombosis;Uterus Hemorrhage

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 736

TRT#: 8

SEX: Female

DAY ON TEST: 642

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41305

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Chronic
* Liver		Basophilic Focus	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14+15+16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Skin		Ulcer	Marked
[ Ulcer TGLS = 1-14+15+16 ]			
* Zymbals GI			
Note: ulceration of tumor contributed to msac.			

PRIMARY CAUSE OF DEATH	- Mammary Gland Fibroadenoma
CONTRIBUTORY CAUSE OF DEATH	- Skin Ulcer

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 737

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41306

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 4,5-15+16 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
[ Cyst TGLS = 3-9 ]			
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
* Stom Gland			
Note: tgl 6 no corresponding micro lesion			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 738

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 2,3-15+16 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,4-14+17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Hyperplasia	Minimal
* Pituitary Gland	Pars Intermed	Vacuolization Cytoplasmic	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 739

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41308

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye	Cornea	Necrosis	Mild
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 3,4,5-6+14 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 740

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 684

**DOSE:** 1200 PPM

**DISP:** Moribund Sacrifice

**HISTO:** 41309

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	Pleura	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Brain		Compression	Moderate
* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 3,4-14+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 741

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41310

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	* Larynx	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	Pleura	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Adrenal Cortex [ Carcinoma TGLS = 3-7 ]		Carcinoma	
* Eye Note: tgl 1 no corresponding micro lesion			
* Kidney		Nephropathy	Chronic, Moderate
* Liver [ Clear Cell Focus TGLS = 7-6 ]		Basophilic Focus Clear Cell Focus	
* Lung [ Infiltration Cellular TGLS = 6-5 ]	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Mammary Gland [ Fibroadenoma TGLS = 4-14 ]		Fibroadenoma	
Mesentery [ Necrosis TGLS = 5-15 ]		Necrosis	Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland [ Adenoma TGLS = 2-10 ]		Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 741

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41310

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 742

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41311

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	Blood Vessel	* 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
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Adenoma	
* Eye	Cornea	Mineralization	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 2-6 ]			
* Lung	Alveolar Epith	Hyperplasia	Marked
[ Hyperplasia TGLS = 1-5 ]			
Mesentery		Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Stomach, Glandular	Epithelium	Hyperplasia	Mild
[ Hyperplasia TGLS = 5-14 ]			
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3-10 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 743

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41312

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	Pleura	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Eye			
Note: tgl 2 no corresponding micro lesion			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Necrosis	Mild
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 744

TRT#: 8

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41313

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Eye			
Note: tgl 2 no corresponding micro lesion			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	Marked
[ Hepatodiaphragmatic Nodule TGLS = 6-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
* Pituitary Gland		Angiectasis	Moderate
[ Angiectasis TGLS = 3-10 ]			
Pleura		Inflammation	Chronic, Mild
[ Inflammation TGLS = 5-14 ]			
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 744

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41313

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 4-6 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 745

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41314

**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	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Kidney		Nephropathy	Chronic, Mild
* Liver		Angiectasis	Mild
		Basophilic Focus	
[ Angiectasis TGLS = 2-6 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 746

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41315

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus	* Zymbal's Gland		

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Moderate
* Liver		Basophilic Focus	
		Hepatocellular Adenoma	
[ Hepatocellular Adenoma TGLS = 6-15 ]			
* Lung	Interstitial	Fibrosis	Mild
	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 8-14 ]			
[ Infiltration Cellular TGLS = 8-14 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-18 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 7-19 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Ovary		Cyst	Marked
[ Cyst TGLS = 5-9 ]			
* Pituitary Gland		Angiectasis	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 746

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41315

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Angiectasis TGLS = 1-10 ]

\* Spleen

Leukemia Mononuclear

Necrosis

Moderate

[ Leukemia Mononuclear TGLS = 3-16 ]

[ Necrosis TGLS = 4-17 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 747

TRT#: 8

SEX: Female

DAY ON TEST: 519

DOSE: 1200 PPM

DISP: Moribund Sacrifice

HISTO: 41316

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lung
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	Pleura
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus
* Zymbal's Gland			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Heart			
Note: tgl 2 no corresponding micro lesion			
* Kidney		Nephropathy	Chronic, Minimal
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Stom Gland			
Note: tgl 4 no corresponding micro lesion			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 90004-07

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Propylene glycol mono-t-butyl ether

CAS Number: 57018-52-7

Date Report Requested: 10/17/2014

Time Report Requested: 10:49:40

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 748

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 41317

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Zymbal's Gland	
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OBSERVATIONS

* Kidney	Cortex, Renal Tubule	Adenoma Nephropathy	Chronic, Mild
* Liver		Basophilic Focus Clear Cell Focus	
[ Clear Cell Focus TGLS = 4-6+15 ]			
* Lung	Alveolus	Infiltration Cellular Inflammation	Histiocyte, Mild Chronic, Minimal
[ Infiltration Cellular TGLS = 3-5 ]			
Mesentery		Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			
* Nose	Olfactory Epi Goblet Cell	Degeneration Hyperplasia	Hyaline, Marked Mild
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Pleura		Inflammation	Chronic, Minimal
[ Inflammation TGLS = 3-5 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 749

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 617

**DOSE:** 1200 PPM

**DISP:** Natural Death

**HISTO:** 41318

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	Blood Vessel	* Bone
* Bone Marrow	* Clitoral Gland	* Esophagus	* Eye
* Harderian Gland	* Heart	* Intestine Large, Colon	* Intestine Large, Rectum
* Islets, Pancreatic	* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus	* Zymbal's Gland	

**MISSING**

\* Lymph Node, Mandibular

**AUTO PRECLUDES DIAG.**

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
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**OBSERVATIONS**

* Brain		Hemorrhage	Marked
[ Hemorrhage TGLS = 2-14 ]			
* Kidney		Nephropathy	Chronic, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-15 ]			
* Lung		Hemorrhage	Moderate
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 3-10 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-16 ]			

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear  
**CONTRIBUTORY CAUSE OF DEATH** - Brain Hemorrhage; Pituitary Gland Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 90004-07  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Propylene glycol mono-t-butyl ether  
**CAS Number:** 57018-52-7

**Date Report Requested:** 10/17/2014  
**Time Report Requested:** 10:49:40  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 750

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 41319

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* 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	* Larynx	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
Pleura	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	* Zymbal's Gland

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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**OBSERVATIONS**

* Kidney		Nephropathy	Chronic, Marked
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLS = 3-14 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
* Pituitary Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			

**PRIMARY CAUSE OF DEATH**

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**\*\* END OF REPORT \*\***

\* PROTOCOL REQUIRED TISSUE