

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

C Number:	C56348A
Lock Date:	01/02/1996
Cage Range:	All
Date Range:	All
Reasons For Removal:	All
Removal Date Range:	All
Treatment Groups:	All
Study Gender:	Both
PWG Approval Date	NONE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 1	TRT#: 1	SEX: Male	DAY ON TEST: 93
	DOSE: UNTREAT CONTROL	DISP: Terminal Sacrifice	HISTO: 9509021

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

- | | | |
|---|----------------------------|------------------|
| * Heart | Cardiomyopathy | Minimal |
| * Liver | Hepatodiaphragmatic Nodule | |
| | Inflammation | Chronic, Minimal |
| [Hepatodiaphragmatic Nodule TGLS = 1-6] | | |
| * Nose | Inflammation | Minimal |

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 2	TRT#: 1	SEX: Male	DAY ON TEST: 93
	DOSE: UNTREAT CONTROL	DISP: Terminal Sacrifice	HISTO: 9509022

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- * Pituitary Gland

OBSERVATIONS

- | | | | |
|----------|--------------|----------------|------------------|
| * Heart | | Cardiomyopathy | Mild |
| * Kidney | | Mineralization | Minimal |
| | Renal Tubule | Regeneration | Minimal |
| * Liver | | Inflammation | Chronic, Minimal |
| * Nose | | Inflammation | Minimal |

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 3	TRT#: 1	SEX: Male	DAY ON TEST: 93
	DOSE: UNTREAT CONTROL	DISP: Terminal Sacrifice	HISTO: 9509023

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

- | | | | |
|----------------------|--------------|-----------------------|---------------------|
| * Heart | | Cardiomyopathy | Minimal |
| * Kidney | Renal Tubule | Regeneration | Minimal |
| * Lung | Alveolus | Infiltration Cellular | Histiocyte, Minimal |
| * Nose | | Inflammation | Minimal |
| * Stomach, Glandular | | Mineralization | Minimal |

PRIMARY CAUSE OF DEATH -

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 4

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509024

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509025

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 6

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509026

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509027

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
* Liver		Inflammation	Chronic, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose		Inflammation	Minimal
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

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* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509028

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal
* Preputial Gland		Inflammation	Minimal
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

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* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509029

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Mammary Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal
* Preputial Gland		Inflammation	Minimal
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509030

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

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* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 11

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509031

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Thyroid Gland

MISSING

* Parathyroid Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal
* Trachea		Inflammation	Minimal
* Urinary Bladder		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 12

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509032

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic, Minimal
* Preputial Gland		Inflammation	Minimal
* Stomach, Glandular	Artery	Mineralization	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 13

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509033

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Parathyroid Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal
* Preputial Gland		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 14

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509034

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

- | | | | |
|------------|--------------|----------------|------------------|
| * Heart | | Cardiomyopathy | Minimal |
| * Kidney | | Mineralization | Minimal |
| | Renal Tubule | Regeneration | Minimal |
| * Liver | | Inflammation | Chronic, Minimal |
| * Nose | | Inflammation | Minimal |
| * Prostate | | Inflammation | Minimal |
| * Trachea | | Inflammation | Minimal |

PRIMARY CAUSE OF DEATH

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* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 15

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509035

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Mammary Gland

OBSERVATIONS

* Intestine Large, Rectum		Parasite Metazoan	
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:13

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 16

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509036

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Intestine Large, Rectum		Parasite Metazoan	
* Kidney		Developmental Malformation	
	Renal Tubule	Regeneration	Minimal
* Prostate		Inflammation	Mild

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 17

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509037

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Mammary Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 18

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509038

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Pituitary Gland

OBSERVATIONS

* Kidney	Renal Tubule	Regeneration	Minimal
* Liver		Hepatodiaphragmatic Nodule Inflammation	Chronic, Minimal
	[Hepatodiaphragmatic Nodule TGLS = 1-6]		
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 19

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509039

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Parathyroid Gland

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Nose		Inflammation	Minimal
* Preputial Gland		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 20

TRT#: 3

SEX: Male

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509040

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Epididymis		Inflammation	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Lung		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal
* Preputial Gland		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 21

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509041

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 22

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509042

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 23

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509043

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 24

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509044

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 25

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509045

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 26

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509046

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 27

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509047

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

Liver

Hepatodiaphragmatic Nodule

[Hepatodiaphragmatic Nodule TGLS = 1-6]

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 28

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509048

OBSERVATIONS

Kidney

Renal Tubule

Regeneration

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 29

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509049

OBSERVATIONS

Kidney

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 30

TRT#: 5

SEX: Male

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509050

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 31

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509051

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 32

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509052

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 33

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509053

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 34

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509054

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 35

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509055

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01
Test Type: 90-DAY
Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral
CAS Number: 5392-40-5

Date Report Requested: 10/23/2014
Time Report Requested: 05:11:14
First Dose M/F: NA / NA
Lab: BAT

ANIMAL ID: 36

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509056

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 37

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509057

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 38

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509058

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Minimal

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 39

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509059

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Mild

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 40

TRT#: 7

SEX: Male

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509060

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Kidney

Renal Tubule

Casts Granular

Mild

Nephropathy

Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 41

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509061

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Minimal
		Mineralization	Minimal
		Nephropathy	Minimal
* Pancreas		Atrophy	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 42

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509062

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Mild
		Mineralization	Minimal
		Nephropathy	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 43

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509063

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Mild
		Nephropathy	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Nose		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 44

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509064

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Minimal
		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Preputial Gland		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 45

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509065

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Intestine Large, Colon		Parasite Metazoan	
* Kidney	Renal Tubule	Casts Granular	Minimal
		Mineralization	Minimal
		Nephropathy	Minimal
* Preputial Gland		Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 46

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509066

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- * Parathyroid Gland

OBSERVATIONS

- | | | | |
|---------------|--------------|----------------|---------|
| * Bone Marrow | | Atrophy | Minimal |
| * Heart | | Cardiomyopathy | Minimal |
| * Kidney | Renal Tubule | Casts Granular | Mild |
| | | Nephropathy | Minimal |
| * Prostate | | Inflammation | Minimal |

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 47

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509067

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Kidney	Renal Tubule	Casts Granular Mineralization Nephropathy	Mild Minimal Minimal
* Liver	Renal Tubule	Regeneration Inflammation	Minimal Chronic, Minimal
* Preputial GI			
Note: only 1 preputial on slide			
* Prostate		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 48

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509068

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Minimal
		Mineralization	Minimal
		Nephropathy	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 49

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509069

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Mild
		Nephropathy	Minimal
	Renal Tubule	Regeneration	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 50

TRT#: 9

SEX: Male

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509070

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Casts Granular	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Lung		Inflammation	Chronic, Minimal
* Preputial Gland		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 51

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509071

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

- | | | |
|---------------|------------|---------|
| * Bone Marrow | Atrophy | Minimal |
| | Hemorrhage | Mild |
| * Testes | Aspermia | Marked |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

Animal Note: Sex organs/secondary sex organs have typical immaturity of young rat. Minimal i ncreased keratin layer in stomach typical of not eating.

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 52

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509072

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
	Hemorrhage	Mild
* Liver	Inflammation	Chronic, Minimal
* Testes	Aspermia	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 53

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509073

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
	Hemorrhage	Minimal
* Prostate	Inflammation	Mild
* Testes	Aspermia	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 54

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509074

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Moderate
		Hemorrhage	Mild
* Preputial GI			
Note: only 1 preputial on slide			
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal
* Testes		Aspermia	Marked
* Thymus		Atrophy	Moderate
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 55

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509075

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

* Mammary Gland

OBSERVATIONS

* Bone Marrow	Atrophy	Mild
	Hemorrhage	Mild
* Testes	Aspermia	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 56

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509076

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* 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

* Mammary Gland

OBSERVATIONS

* Bone Marrow	Atrophy	Moderate
	Hemorrhage	Mild
* Heart	Cardiomyopathy	Minimal
* Testes	Aspermia	Marked
* Thymus	Atrophy	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 57

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509077

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow	Atrophy	Moderate
	Hemorrhage	Moderate
* Liver	Inflammation	Chronic, Minimal
* Testes	Aspermia	Marked
* Thymus	Atrophy	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 58

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509078

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow	Atrophy	Mild
	Hemorrhage	Mild
* Testes	Aspermia	Marked
* Thymus	Atrophy	Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 59

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509079

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
	Hemorrhage	Mild
* Testes	Aspermia	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 60

TRT#: 11

SEX: Male

DAY ON TEST: 10

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509080

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

OBSERVATIONS

* Bone Marrow		Atrophy	Mild
		Hemorrhage	Minimal
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal
* Testes		Aspermia	Marked
* Thymus		Atrophy	Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 61

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509081

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Clitoral Gland		Inflammation	Minimal
* Kidney	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 62

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509082

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Heart	Cardiomyopathy	Minimal
* Liver	Inflammation	Chronic, Mild
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 63	TRT#: 2	SEX: Female	DAY ON TEST: 93
	DOSE: UNTREAT CONTROL	DISP: Terminal Sacrifice	HISTO: 9509083

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Kidney	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Liver		Inflammation	Chronic, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Nose		Inflammation	Minimal
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH	-
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* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 64

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509084

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Bone Marrow
- * Heart
- * Intestine Small, Duodenum
- * Lung
- * Pancreas
- * Skin
- * Thymus
- * Uterus

- * Adrenal Medulla
- * Brain
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Lymph Node, Mandibular
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland

- * Blood Vessel
- * Clitoral Gland
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

- * Bone
- * Esophagus
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Mammary Gland
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder

OBSERVATIONS

- | | | | |
|----------|--------------|--------------|------------------|
| * Kidney | Renal Tubule | Regeneration | Minimal |
| * Liver | | Inflammation | Chronic, Minimal |
| * Nose | | Inflammation | Minimal |
| * Ovary | | Cyst | Minimal |

[Cyst TGLS = 1-10]

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 65

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509085

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Heart	Cardiomyopathy	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 66

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509086

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Heart	Cardiomyopathy	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Lung	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 67

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509087

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex
* Bone Marrow
* Heart
* Intestine Small, Duodenum
* Liver
* Ovary
* Salivary Glands
* Stomach, Glandular
* Uterus

* Adrenal Medulla
* Brain
* Intestine Large, Cecum
* Intestine Small, Ileum
* Lymph Node, Mandibular
* Pancreas
* Skin
* Thymus

* Blood Vessel
* Clitoral Gland
* Intestine Large, Colon
* Intestine Small, Jejunum
* Lymph Node, Mesenteric
* Parathyroid Gland
* Spleen
* Thyroid Gland

* Bone
* Esophagus
* Intestine Large, Rectum
* Islets, Pancreatic
* Mammary Gland
* Pituitary Gland
* Stomach, Forestomach
* Urinary Bladder

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Lung	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 68

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509088

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex
* Bone Marrow
* Heart
* Intestine Small, Duodenum
* Kidney
* Mammary Gland
* Pituitary Gland
* Stomach, Forestomach
* Urinary Bladder

* Adrenal Medulla
* Brain
* Intestine Large, Cecum
* Intestine Small, Ileum
* Lung
* Nose
* Salivary Glands
* Stomach, Glandular
* Uterus

* Blood Vessel
* Clitoral Gland
* Intestine Large, Colon
* Intestine Small, Jejunum
* Lymph Node, Mandibular
* Pancreas
* Skin
* Thymus

* Bone
* Esophagus
* Intestine Large, Rectum
* Islets, Pancreatic
* Lymph Node, Mesenteric
* Parathyroid Gland
* Spleen
* Thyroid Gland

OBSERVATIONS

* Liver	Inflammation	Chronic, Mild
* Ovary	Cyst	Mild
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 69

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509089

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Blood Vessel | * Bone |
| * Bone Marrow | * Brain | * Esophagus | * Heart |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * Lung |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland | * Nose |
| * Ovary | * Pancreas | * Parathyroid Gland | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

OBSERVATIONS

- | | | | |
|------------------|--------------|----------------|------------------|
| * Clitoral Gland | | Inflammation | Minimal |
| * Kidney | | Mineralization | Minimal |
| | Renal Tubule | Regeneration | Minimal |
| * Liver | | Inflammation | Chronic, Minimal |

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 70

TRT#: 2

SEX: Female

DAY ON TEST: 93

DOSE: UNTREAT CONTROL

DISP: Terminal Sacrifice

HISTO: 9509090

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 71

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509091

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex

* Adrenal Medulla

* Blood Vessel

* Bone

* Bone Marrow

* Brain

* Clitoral Gland

* Esophagus

* Heart

* Intestine Large, Cecum

* Intestine Large, Colon

* Intestine Large, Rectum

* Intestine Small, Duodenum

* Intestine Small, Ileum

* Intestine Small, Jejunum

* Islets, Pancreatic

* Lung

* Lymph Node, Mandibular

* Lymph Node, Mesenteric

* Mammary Gland

* Nose

* Ovary

* Pancreas

* Parathyroid Gland

* Pituitary Gland

* Salivary Glands

* Skin

* Spleen

* Stomach, Forestomach

* Thymus

* Thyroid Gland

* Trachea

* Urinary Bladder

* Uterus

OBSERVATIONS

* Kidney

Mineralization

Minimal

* Liver

Inflammation

Chronic, Minimal

* Stomach, Glandular

Mineralization

Mild

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 72

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509092

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Trachea		Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 73

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509093

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Lung	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 74

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509094

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland		Inflammation	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Mineralization	Minimal
	Renal Tubule	Regeneration	Minimal
* Liver		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 75

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509095

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 76

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509096

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Parathyroid Gland

OBSERVATIONS

* Clitoral Gland	Inflammation	Minimal
* Kidney	Mineralization	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 77

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509097

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland	Inflammation	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Lung	Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 78

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509098

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Uterus			

OBSERVATIONS

* Heart	Cardiomyopathy	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Ovary		
Note: only 1 full ovary on slide		
* Urinary Bladder	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 79

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509099

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Urinary Bladder	* Uterus

OBSERVATIONS

* Clitoral Gland	Inflammation	Minimal
* Heart	Cardiomyopathy	Minimal
* Liver	Hepatodiaphragmatic Nodule	
	Inflammation	Chronic, Minimal
[Hepatodiaphragmatic Nodule TGLS = 1-6]		
* Lung	Inflammation	Chronic, Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 80

TRT#: 4

SEX: Female

DAY ON TEST: 93

DOSE: VEHICLE CONTROL

DISP: Terminal Sacrifice

HISTO: 9509100

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Urinary Bladder	* Uterus		

MISSING

* Parathyroid Gland

OBSERVATIONS

* Clitoral Gland	Inflammation	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Lung	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 90

TRT#: 6

SEX: Female

DAY ON TEST: 93

DOSE: 3900 PPM

DISP: Terminal Sacrifice

HISTO: 9509110

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Liver

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 91

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509111

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 92

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509112

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 93

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509113

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 94

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509114

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 95

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509115

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 96

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509116

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 97

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509117

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

OBSERVATIONS

Intestine Large, Colon

Leiomyosarcoma

[Leiomyosarcoma TGLS = 1-6]

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 98

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509118

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 99

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509119

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 100

TRT#: 8

SEX: Female

DAY ON TEST: 93

DOSE: 7800 PPM

DISP: Terminal Sacrifice

HISTO: 9509120

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 101

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509121

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Blood Vessel | * Bone |
| * Bone Marrow | * Brain | * Esophagus | * Heart |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * Lung |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland | * Nose |
| * Ovary | * Pancreas | * Parathyroid Gland | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

OBSERVATIONS

- | | | | |
|------------------|--------------|--------------|------------------|
| * Clitoral Gland | | Inflammation | Minimal |
| * Kidney | Renal Tubule | Regeneration | Minimal |
| * Liver | | Inflammation | Chronic, Minimal |

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 102

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509122

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Liver	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Urinary Bladder	* Uterus

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
* Heart	Cardiomyopathy	Minimal
* Kidney	Mineralization	Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 103

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509123

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Uterus			

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Intestine Large, Rectum	Parasite Metazoan	
* Liver	Inflammation	Chronic, Minimal
* Urinary Bladder	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 104

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509124

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
* Intestine Large, Rectum	Parasite Metazoan	
* Liver	Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 105

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509125

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
* Intestine Large, Rectum	Parasite Metazoan	
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Nose	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 106

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509126

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
* Heart	Cardiomyopathy	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 107

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509127

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Kidney	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Urinary Bladder	* Uterus

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
* Heart	Cardiomyopathy	Minimal
* Pancreas	Atrophy	Minimal
* Trachea	Inflammation	Minimal
* Uterus		

Note: Left horn on slide and normal microscopically. Right horn had extreme hypoplasia (aplasia) on gross, and not presented for microscopic exam (TGL-1).

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 108

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509128

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Clitoral Gland	Inflammation	Minimal
Note: Inflammation insufficient to account for gross interpretation of enlarged size. Suspect quantity of secretion was related to gross interpretation.		
* Heart	Cardiomyopathy	Minimal
* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal
* Trachea	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 109

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509129

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
* Nose	Inflammation	Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 110

TRT#: 10

SEX: Female

DAY ON TEST: 93

DOSE: 15600 PPM

DISP: Terminal Sacrifice

HISTO: 9509130

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Liver	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Parathyroid Gland
* Pituitary Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Lung	Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 111

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509131

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Nose	* Ovary	* Pancreas	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Parathyroid Gland

OBSERVATIONS

* Kidney	Mineralization	Minimal
* Liver	Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 112

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509132

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Bone Marrow	Hemorrhage	Minimal
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PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 113

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509133

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow		Atrophy	Moderate
		Hemorrhage	Moderate
* Ovary			
Note: fewer CL's noted than in controls; interpreted to be due to immaturity			
* Thymus		Atrophy	Marked

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 114

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509134

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow		Hemorrhage	Minimal
* Ovary			
Note: no CL's noted, due to immaturity			
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 115

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509135

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Blood Vessel | * Bone |
| * Brain | * Clitoral Gland | * Esophagus | * Heart |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * Lung |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland | * Nose |
| * Ovary | * Pancreas | * Parathyroid Gland | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

OBSERVATIONS

- | | | |
|---------------|----------------|------------------|
| * Bone Marrow | Atrophy | Minimal |
| | Hemorrhage | Moderate |
| * Kidney | Mineralization | Minimal |
| * Liver | Inflammation | Chronic, Minimal |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 116

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509136

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Nose	* Ovary	* Pancreas
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Bone Marrow	Atrophy	Minimal
	Hemorrhage	Moderate
* Ovary Note: no CL's due to immaturity		
* Thymus	Atrophy	Moderate

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 117

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509137

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Mammary Gland

OBSERVATIONS

* Bone Marrow		Hemorrhage	Minimal
* Kidney		Mineralization	Minimal
* Ovary			
Note: no CL's due to immaturity			
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 118

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509138

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Mammary Gland

OBSERVATIONS

* Bone Marrow		Hemorrhage	Mild
* Nose		Inflammation	Minimal
* Ovary			
Note: no CL's due to immaturity			
* Stomach, Forestomach		Hyperkeratosis	Minimal
	Epithelium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 119

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509139

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Blood Vessel	* Bone
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Parathyroid Gland

OBSERVATIONS

* Bone Marrow		Hemorrhage	Moderate
* Kidney		Mineralization	Minimal
* Liver		Hepatodiaphragmatic Nodule	
[Hepatodiaphragmatic Nodule TGLS = 1-6]			
* Ovary			
Note: no CL's due to immaturity			
* Stomach, Forestomach		Hyperkeratosis	Mild
	Epithelium	Hyperplasia	Minimal
* Thymus		Atrophy	Mild

PRIMARY CAUSE OF DEATH

- UNCERTAIN

* PROTOCOL REQUIRED TISSUE

Experiment Number: 56348-01

Test Type: 90-DAY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Citral

CAS Number: 5392-40-5

Date Report Requested: 10/23/2014

Time Report Requested: 05:11:14

First Dose M/F: NA / NA

Lab: BAT

ANIMAL ID: 120

TRT#: 12

SEX: Female

DAY ON TEST: 9

DOSE: 31300 PPM

DISP: Moribund Sacrifice

HISTO: 9509140

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Blood Vessel | * Bone |
| * Brain | * Clitoral Gland | * Esophagus | * Heart |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney |
| * Liver | * Lung | * Lymph Node, Mandibular | * Lymph Node, Mesenteric |
| * Mammary Gland | * Nose | * Ovary | * Pancreas |
| * Parathyroid Gland | * Pituitary Gland | * Salivary Glands | * Spleen |
| * Stomach, Forestomach | * Stomach, Glandular | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

OBSERVATIONS

- | | | |
|---------------|--------------|---------|
| * Bone Marrow | Atrophy | Minimal |
| | Hemorrhage | Mild |
| * Skin | Inflammation | Minimal |
| * Thymus | Atrophy | Mild |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

** END OF REPORT **

* PROTOCOL REQUIRED TISSUE