

**TDMS No.** 20302 - 03

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

**CAS Number:** 80-56-8

**Pathologist:** GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

F1\_R2

**Date Report Reqsted:** 11/17/2006

**Time Report Reqsted:** 07:28:13

**First Dose M/F:** 03/28/05 / 03/29/05

**Lab:** BNW

**C Number:** C20302  
**Lock Date:** 12/07/2005  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1 TMT: 1  
DOSE: CONTROL

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53277

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Kidney Nephropathy Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 2 TMT: 1 DOSE: CONTROL

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53278

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Lymph Node, Mediastinal
- \* Mammary Gland

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 3

TMT: 1  
DOSE: CONTROL

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53279

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Epididymis                | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Larynx                    | * Liver                  | * Lung                     |
| * Lymph Node, Mediastinal | * 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

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

OBSERVATIONS

- |          |             |      |
|----------|-------------|------|
| * Kidney | Nephropathy | Mild |
|----------|-------------|------|

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 4

TMT: 1

DOSE: CONTROL

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 93

HISTO: 53280

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Epididymis
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Liver
- \* Nose
- \* Preputial Gland
- \* Skin
- \* Testes
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lung
- \* Pancreas
- \* Prostate
- \* Spleen
- \* Thymus

- \* Bone
- \* Eye
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mediastinal
- \* Parathyroid Gland
- \* Salivary Glands
- \* Stomach, Forestomach
- \* Thyroid Gland

- \* Bone Marrow
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pituitary Gland
- \* Seminal Vesicle
- \* Stomach, Glandular
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Mammary Gland

OBSERVATIONS

- |          |            |                |         |
|----------|------------|----------------|---------|
| * Brain  | Cerebellum | Mineralization | Mild    |
| * Heart  |            | Cardiomyopathy | Minimal |
| * Kidney |            | Nephropathy    | Minimal |



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 6

TMT: 1  
DOSE: CONTROL

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53282

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                             |                          |                            |                           |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex            | * Adrenal Medulla        | * Bone                     | * Bone Marrow             |
| * Brain                     | * Epididymis             | * Esophagus                | * Eye                     |
| * Harderian Gland           | * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      |
| * Larynx                    | * Liver                  | * Lung                     | * 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        |                            |                           |

MISSING

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

OBSERVATIONS

- |          |                               |         |
|----------|-------------------------------|---------|
| * Heart  | Cardiomyopathy                | Minimal |
| * Kidney | Accumulation, Hyaline Droplet | Mild    |
|          | Nephropathy                   | Minimal |



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 8

TMT: 1  
DOSE: CONTROL

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53284

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

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

OBSERVATIONS

- |          |                |         |
|----------|----------------|---------|
| * Heart  | Cardiomyopathy | Minimal |
| * Kidney | Nephropathy    | Minimal |

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 9 TMT: 1 DOSE: CONTROL

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53285

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular
- \* Mammary Gland

OBSERVATIONS

- \* Kidney Nephropathy Minimal
- \* Lung Inflammation Chronic Active, Minimal



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 201    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53377

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 202    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53378

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 203 TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53379

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 204    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53380

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 205    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53381

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 206 TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Liver Urinary Bladder

OBSERVATIONS

* Kidney	Accumulation, Hyaline Droplet	Minimal
	Casts Granular	Minimal
	Nephropathy	Mild
Mesentery	Necrosis	Mild
[ Necrosis TGLs = 1-14 ]		

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 207 TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53383

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Urinary Bladder

**OBSERVATIONS**

* Kidney		Accumulation, Hyaline Droplet	Mild
		Casts Granular	Minimal
		Nephropathy	Mild
Liver	[ Hepatodiaphragmatic Nodule TGLs = 1-14 ]	Hepatodiaphragmatic Nodule	

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 208    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53384

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 209 TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53385

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Lymph Node

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 210    TMT: 3  
DOSE: 25 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53386

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Nephropathy

Minimal  
Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 401 TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53357

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 402    TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53358

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 403    TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53359

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 404    TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53360

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Minimal  
Moderate  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 405    TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53361

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 406 TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53362

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 407 TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53363

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 408 TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53364

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Spleen

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 409    TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53365

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 410 TMT: 5  
DOSE: 50 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53366

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 601 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53337

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 602    TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53338

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 603 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53339

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 604    TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53340

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 605 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53341

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 606 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53342

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 607    TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53343

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 608 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53344

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Minimal  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 609 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53345

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 610 TMT: 7  
DOSE: 100 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53346

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 801 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53317

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Mild  
Moderate



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 803 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53319

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Moderate  
Moderate

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 804    TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53320

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 805 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53321

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 806 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53322

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Pituitary Gland

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Mild  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 807    TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53323

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Liver

Urinary Bladder

---

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Mild  
Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 808 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53324

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Moderate  
Moderate

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 809 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53325

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Moderate  
Moderate

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 810 TMT: 9  
DOSE: 200 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53326

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Liver

Urinary Bladder

**OBSERVATIONS**

\* Kidney

Accumulation, Hyaline Droplet  
Casts Granular  
Nephropathy

Moderate  
Moderate  
Moderate







TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1004 TMT: 11  
DOSE: 400 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53300

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- |                         |                          |                           |                 |
|-------------------------|--------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|--------------------------|---------------------------|-----------------|

OBSERVATIONS

- |                      |                               |                         |
|----------------------|-------------------------------|-------------------------|
| * Heart              | Cardiomyopathy                | Minimal                 |
| * Kidney             | Accumulation, Hyaline Droplet | Moderate                |
|                      | Casts Granular                | Moderate                |
|                      | Nephropathy                   | Moderate                |
| * Lung               | Inflammation                  | Chronic Active, Minimal |
| * Stomach, Glandular | Mineralization                | Minimal                 |







TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1008 TMT: 11  
DOSE: 400 ppm

SEX: Male  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53304

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- |                         |                          |                           |                 |
|-------------------------|--------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|--------------------------|---------------------------|-----------------|

INSUFFICIENT TISSUE

- \* Thymus

OBSERVATIONS

- |                    |                               |          |
|--------------------|-------------------------------|----------|
| * Heart            | Cardiomyopathy                | Minimal  |
| * Kidney           | Accumulation, Hyaline Droplet | Moderate |
|                    | Casts Granular                | Moderate |
|                    | Nephropathy                   | Moderate |
| * Liver            | Clear Cell Focus              |          |
| [ Clear Cell Focus | TGLs = 1-14 ]                 |          |





TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 101 TMT: 2  
DOSE: CONTROL

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53287

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Nose
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Parathyroid Gland



TDMS No. 20302 - 03

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Date Report Requested: 11/17/2006

Test Type: 90-DAY

ALPHA-PINENE

Time Report Requested: 07:28:13

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 80-56-8

First Dose M/F: 03/28/05 / 03/29/05

Species/Strain: RATS/F 344

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Lab: BNW

**ANIMAL NUM:** 103    **TMT:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 93  
**HISTO:** 53289

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla           | * Bone                   | * Bone Marrow              |
| * Brain                   | * Clitoral Gland            | * Esophagus              | * Eye                      |
| * Harderian Gland         | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Larynx                    | * Liver                  | * 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                   |

**MISSING**

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

**OBSERVATIONS**

- |          |              |                         |
|----------|--------------|-------------------------|
| * Kidney | Nephropathy  | Minimal                 |
| * Lung   | Inflammation | Chronic Active, Minimal |



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 105 TMT: 2  
DOSE: CONTROL

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53291

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 106 TMT: 2  
DOSE: CONTROL

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53292

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

**MISSING**

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 108 TMT: 2 DOSE: CONTROL

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53294

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Mandibular

OBSERVATIONS

- \* Lymph Node, Bronchial [ Hemorrhage TGLs = 1-7 ] Hemorrhage Mild
- Mesentery Fat [ Necrosis TGLs = 2-14 ] Necrosis Mild



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 110 TMT: 2  
DOSE: CONTROL

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53296

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 301    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53387

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 302    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53388

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 303    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53389

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 304    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53390

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

**OBSERVATIONS**

Vagina

[ Cyst TGLs = 1-7 ]

Cyst

Moderate

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 305 TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53391

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Kidney

Liver

Urinary Bladder

**OBSERVATIONS**

Tongue

[ Cyst TGLs = 1-7 ]

Cyst

Moderate

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 306    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53392

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 307    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53393

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 308    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53394

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 309    TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53395

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 310 TMT: 4  
DOSE: 25 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53396

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

**OBSERVATIONS**

Mesentery

[ Necrosis TGLs = 1-7 ]

Fat

Necrosis

Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 501    TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53367

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 502    TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53368

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 503 TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53369

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**  
Kidney Liver Lymph Node Urinary Bladder

**OBSERVATIONS**

Mesentery Fat Mild  
[ Necrosis TGLs = 1-14 ] Necrosis



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 505    TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53371

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

**OBSERVATIONS**

Mesentery

[ Necrosis    Fat  
TGLs = 1-10 ]

Necrosis

Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 506 TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53372

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 507    TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53373

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 508 TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53374

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

**OBSERVATIONS**

Mesentery

[ Necrosis TGLs = 1-14 ]

Fat

Necrosis

Mild

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 509    TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53375

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 510 TMT: 6  
DOSE: 50 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53376

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 701 TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53347

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 702    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53348

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 703 TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53349

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 704    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53350

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 705    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53351

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 706    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53352

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 707    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53353

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 708    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53354

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 709    TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53355

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

---

ANIMAL NUM: 710 TMT: 8  
DOSE: 100 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53356

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Kidney

Liver

Urinary Bladder

---

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 901 TMT: 10 DOSE: 200 ppm

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53327

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 903 TMT: 10 DOSE: 200 ppm

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53329

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

OBSERVATIONS

- \* Lung

Inflammation

Chronic Active, Minimal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 904 TMT: 10 DOSE: 200 ppm

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

INSUFFICIENT TISSUE

- \* Eye
- \* Larynx



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 906 TMT: 10  
DOSE: 200 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53332

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Ovary
- \* Skin
- \* Thymus
- \* Uterus

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Nose
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

- \* Parathyroid Gland

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 907 TMT: 10 DOSE: 200 ppm

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53333

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 908 TMT: 10  
DOSE: 200 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53334

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 910 TMT: 10 DOSE: 200 ppm

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53336

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular

TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1101 TMT: 12  
DOSE: 400 ppm

SEX: Female  
DISP: Natural Death

DAY ON TEST: 36  
HISTO: 53307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

PRIMARY CAUSE OF DEATH - UNCERTAIN



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1103 TMT: 12  
DOSE: 400 ppm

SEX: Female  
DISP: Natural Death

DAY ON TEST: 91  
HISTO: 53309

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                     |                        |                           |                          |
|---------------------|------------------------|---------------------------|--------------------------|
| * Adrenal Cortex    | * Adrenal Medulla      | * Bone                    | * Bone Marrow            |
| * Brain             | * Clitoral Gland       | * Esophagus               | * Eye                    |
| * Harderian Gland   | * Heart                | * Intestine Large, Rectum | * Islets, Pancreatic     |
| * Kidney            | * Larynx               | * Liver                   | * 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                 |

MISSING

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

AUTO PRECLUDES DIAG.

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

PRIMARY CAUSE OF DEATH - UNCERTAIN



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1105 TMT: 12  
DOSE: 400 ppm

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST: 93  
HISTO: 53311

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lung
- \* Nose
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Intestine Small, Duodenum
- \* Kidney
- \* Lymph Node, Mediastinal
- \* Ovary
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Bone
- \* Esophagus
- \* Intestine Large, Cecum
- \* Intestine Small, Ileum
- \* Larynx
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Liver
- \* Mammary Gland
- \* Parathyroid Gland
- \* Spleen
- \* Thyroid Gland

MISSING

- \* Lymph Node, Bronchial
- \* Lymph Node, Mandibular





TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1108 TMT: 12  
DOSE: 400 ppm

SEX: Female  
DISP: Natural Death

DAY ON TEST: 36  
HISTO: 53314

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Brain
- \* Harderian Gland
- \* Intestine Small, Duodenum
- \* Liver
- \* Nose
- \* Salivary Glands
- \* Stomach, Glandular
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Clitoral Gland
- \* Heart
- \* Islets, Pancreatic
- \* Lung
- \* Ovary
- \* Skin
- \* Thymus
- \* Uterus

- \* Bone
- \* Esophagus
- \* Intestine Large, Colon
- \* Kidney
- \* Lymph Node, Mesenteric
- \* Pancreas
- \* Spleen
- \* Thyroid Gland

- \* Bone Marrow
- \* Eye
- \* Intestine Large, Rectum
- \* Larynx
- \* Mammary Gland
- \* Pituitary Gland
- \* Stomach, Forestomach
- \* Trachea

MISSING

- \* Lymph Node, Bronchial

- \* Lymph Node, Mandibular

- \* Lymph Node, Mediastinal

- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- \* Intestine Large, Cecum

- \* Intestine Small, Ileum

- \* Intestine Small, Jejunum

PRIMARY CAUSE OF DEATH - UNCERTAIN



TDMS No. 20302 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

ALPHA-PINENE

CAS Number: 80-56-8

Pathologist: GRUMBEIN, S. - LIEUALLEN, W. - RENNE, R. (past)

Date Report Requested: 11/17/2006

Time Report Requested: 07:28:13

First Dose M/F: 03/28/05 / 03/29/05

Lab: BNW

ANIMAL NUM: 1110 TMT: 12  
DOSE: 400 ppm

SEX: Female  
DISP: Natural Death

DAY ON TEST: 50  
HISTO: 53316

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

\* Adrenal Cortex  
\* Brain  
\* Harderian Gland  
\* Islets, Pancreatic  
\* Lung  
\* Nose  
\* Pituitary Gland  
\* Stomach, Forestomach  
\* Trachea

\* Adrenal Medulla  
\* Clitoral Gland  
\* Intestine Large, Colon  
\* Kidney  
\* Lymph Node, Mediastinal  
\* Ovary  
\* Salivary Glands  
\* Stomach, Glandular  
\* Urinary Bladder

\* Bone  
\* Esophagus  
\* Intestine Large, Rectum  
\* Larynx  
\* Lymph Node, Mesenteric  
\* Pancreas  
\* Skin  
\* Thymus  
\* Uterus

\* Bone Marrow  
\* Eye  
\* Intestine Small, Duodenum  
\* Liver  
\* Mammary Gland  
\* Parathyroid Gland  
\* Spleen  
\* Thyroid Gland

MISSING

\* Lymph Node, Bronchial

\* Lymph Node, Mandibular

AUTO PRECLUDES DIAG.

\* Intestine Large, Cecum

\* Intestine Small, Ileum

\* Intestine Small, Jejunum

OBSERVATIONS

\* Heart

Cardiomyopathy

Minimal

PRIMARY CAUSE OF DEATH - UNCERTAIN

\*\*\* END OF REPORT \*\*\*