

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
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mediastinal
- * Parathyroid Gland
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland

- * Adrenal Medulla
- * Epididymis
- * Heart
- * Intestine Small, Duodenum
- * Larynx
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea

- * Bone
- * Esophagus
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Nose
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

- * Bone Marrow
- * Eye
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lung
- * Pancreas
- * Prostate
- * Spleen
- * Thymus

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: 8

TMT: 1

DOSE: CONTROL

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 93

HISTO: 53284

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Small, Duodenum
- * Larynx
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea

- * Adrenal Medulla
- * Epididymis
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Mammary Gland
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

- * Bone
- * Esophagus
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lung
- * Nose
- * Prostate
- * Spleen
- * Thymus

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

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
- * Lung

Nephropathy
Inflammation

Minimal
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

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	Moderate
	Casts Granular	Mild
	Nephropathy	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: 802 TMT: 9
DOSE: 200 ppm

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 93
HISTO: 53318

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Liver

Urinary Bladder

OBSERVATIONS

* Kidney

Accumulation, Hyaline Droplet
Casts Granular
Nephropathy

Mild
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: 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: 1002 TMT: 11
DOSE: 400 ppm

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 93
HISTO: 53298

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 |
| * 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 |
|-------------------------|--------------------------|

OBSERVATIONS

- | | | |
|----------|-------------------------------|----------|
| * Heart | Cardiomyopathy | Minimal |
| * Kidney | Accumulation, Hyaline Droplet | Moderate |
| | Casts Granular | Moderate |
| | Nephropathy | 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: 1003 TMT: 11
DOSE: 400 ppm

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 93
HISTO: 53299

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Epididymis | * Esophagus | * Eye |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * 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 | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | |

MISSING

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

OBSERVATIONS

- | | | |
|------------------------------|-------------------------------|-------------------|
| * Harderian Gland | Inflammation | Chronic, Moderate |
| * Heart | Cardiomyopathy | Minimal |
| * Kidney | Accumulation, Hyaline Droplet | Moderate |
| | Casts Granular | Moderate |
| | Nephropathy | Moderate |
| * Liver | Hepatodiaphragmatic Nodule | |
| [Hepatodiaphragmatic Nodule | 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: 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

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: 103 TMT: 2 DOSE: CONTROL

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53289

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Mammary Gland
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland
- * Adrenal Medulla
- * Clitoral Gland
- * Heart
- * Intestine Small, Duodenum
- * Larynx
- * Nose
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea
- * Bone
- * Esophagus
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder
- * Bone Marrow
- * Eye
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Mesenteric
- * Pancreas
- * Skin
- * Thymus
- * 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: 107 TMT: 2 DOSE: CONTROL

SEX: Female DISP: Terminal Sacrifice

DAY ON TEST: 93 HISTO: 53293

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

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

MISSING

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

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: 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: 504 TMT: 6
DOSE: 50 ppm

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 93
HISTO: 53370

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: 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 Fat
[Necrosis 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: 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

