

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

C Number: C20516

Lock Date: 05/16/2007

Cage Range: All

Date Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: All

Study Gender: Both

PWG Approval Date NONE

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Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
0 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	10
Gallbladder	M	+	+	+	+	+	+	M	+	8
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	10
Salivary Glands	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Heart	+	+	+	+	+	+	+	+	+	10
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Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	+	+	+	+	10
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	+	I	+	+	+	+	M	+	M	7

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

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Species/Strain: Mouse/B6C3F1

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Date Report Requested: 10/21/2014

Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
0 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

***TOTALS**

Pituitary Gland	+	+	+	+	+	+	+	+	+	+	10
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	10

General Body System

NONE

Genital System

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	M	+	+	+	M	+	+	M	M	M	6
Lymph Node, Mandibular	+	+	M	+	+	M	+	M	+	+	7
Lymph Node, Mediastinal	M	+	+	+	M	M	M	M	+	+	5
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	10
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

Integumentary System

Mammary Gland	M	M	M	M	M	M	M	M	M	M	0
Skin	+	+	+	+	+	+	+	+	+	+	10

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First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
0 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

***TOTALS**

Skin	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active				2							1 2.0
Musculoskeletal System											
Bone	+	+	+	+	+	+	+	+	+	+	10
Nervous System											
Brain	+	+	+	+	+	+	+	+	+	+	10
Respiratory System											
Larynx	+	+	+	+	+	+	+	+	+	+	10
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Trachea	+	+	+	+	+	+	+	+	+	+	10
Special Senses System											
Eye	+	+	+	+	+	+	+	+	+	+	10
Harderian Gland	+	+	+	+	+	+	+	+	+	+	10
Urinary System											
Kidney	+	+	+	+	+	+	+	+	+	+	10
Cyst				3							1 3.0
Nephropathy				1			1				2 1.0
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	10

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Date Report Requested: 10/21/2014

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First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
25 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	2	2	2	2	2	2	2	2	2	2
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

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First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
25 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	2	2	2	2	2	2	2	2	2	2
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Respiratory System

Larynx	+	+	+	+	+	+	+	+	+	+	10
Metaplasia, Squamous	4	4	4	4	4	4	4	4	4	4	10 4.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Perivascular, Inflammation, Chronic Active					1						1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Accumulation, Hyaline Droplet						1					1 1.0
Respirat Epith, Accumulation, Hyaline Droplet	1	1	1	1	1	1	1	1	1	1	9 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

NONE

Urinary System

NONE

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
50 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	4	4	4	4	4	4	4	4	4	4
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

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CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

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First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
50 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	9	9	9	9	9	9	9	9	9	9
	5	5	5	5	5	5	5	5	5	5
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	4	4	4	4	4	4	4	4	4	4
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Respiratory System

Larynx	+	+	+	+	+	+	+	+	+	+	10
Metaplasia, Squamous	4	4	4	4	4	4	4	4	4	4	10 4.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Accumulation, Hyaline Droplet	1										2 1.0
Respirat Epith, Accumulation, Hyaline Droplet	1	1	1	1	1	1	1	1	1	1	10 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

Eye	+	1
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Urinary System

NONE

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BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
100 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	6	6	6	6	6
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

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Species/Strain: Mouse/B6C3F1

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Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
100 mg/m³

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 9 9 9 9									
	5 5 5 5 5 5 5 5 5 5									
	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
	6 6 6 6 6 6 6 6 6 6									
	0 0 0 0 0 0 0 0 0 1									
	1 2 3 4 5 6 7 8 9 0									

*TOTALS

Respiratory System

Larynx	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active						1	1				2 1.0
Metaplasia, Squamous	4	4	4	4	4	4	4	4	4	4	10 4.0
Squam Epithel, Hyperplasia	1	1	1		1		1	1			6 1.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Infiltration Cellular, Histiocyte						1					1 1.0
Perivascular, Inflammation, Chronic Active	1					1					2 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Accumulation, Hyaline Droplet	1		1			1	2	1	1	1	7 1.1
Respirat Epith, Accumulation, Hyaline Droplet	1	1	1	1	1	1	1	1	1	1	10 1.0
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

Eye	+		1
-----	---	--	---

Urinary System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

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CAS Number: TRIMSC210

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Time Report Requested: 23:43:38

First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
200 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	8	8	8	8	8	8	8	8	8	8
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

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M ..Missing tissue

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First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
200 mg/m³

DAY ON TEST	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
ANIMAL ID	9 9 9 9 9 9 9 9 9 9									
	5 5 5 5 5 5 5 5 5 5									
	0 0 0 0 0 0 0 0 0 0									
	0 0 0 0 0 0 0 0 0 0									
	8 8 8 8 8 8 8 8 8 8									
	0 0 0 0 0 0 0 0 0 1									
	1 2 3 4 5 6 7 8 9 0									

TOTALS*Respiratory System**

Larynx	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active	1	1	1								3 1.0
Metaplasia, Squamous	4	4	4	4	4	4	4	4	4	4	10 4.0
Squam Epithel, Hyperplasia	1	1	1	1	1	1	1	1	1	1	10 1.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Bronchiole, Hyperplasia	1	1	1	1	1	1	1	1	1	1	10 1.0
Infiltration Cellular, Histiocyte	1	1	1	1	1	1	1	1	1	1	10 1.0
Perivascular, Inflammation, Chronic Active	1	1	1	1	1	1	1	1	1	1	10 1.0
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Accumulation, Hyaline Droplet	1	2	1	1	2	2	2	1	1	2	10 1.5
Respirat Epith, Accumulation, Hyaline Droplet	2	1	1	1	2	2	2	2	2	1	10 1.6
Trachea	+	+	+	+	+	+	+	+	+	+	10

Special Senses System

NONE

Urinary System

NONE

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Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
400 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	10
Gallbladder	+	+	+	M	I	+	+	+	+	+	8
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	10
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	10
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	10
Liver	+	+	+	+	+	+	+	+	+	+	10
Pancreas	+	+	+	+	+	+	+	+	+	+	10
Necrosis								2	1	2.0	
Salivary Glands	+	+	+	+	+	+	+	+	+	+	10
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	10
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	10

Cardiovascular System

Blood Vessel	+	+									2
Heart	+	+	+	+	+	+	+	+	+	+	10

Endocrine System

Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	10
Adrenal Medulla	+	+	+	+	+	M	+	+	+	+	9

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
400 mg/m³

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
5	5	5	5	5	5	5	5	5	5	5
1	1	1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	1
1	2	3	4	5	6	7	8	9	0	

***TOTALS**

Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	10
Parathyroid Gland	M	M	+	+	M	+	+	M	+	+	6
Pituitary Gland	+	+	+	+	+	+	I	+	+	M	8
Thyroid Gland	+	+	+	+	0	0	0	0	0	0	10

General Body System

NONE

Genital System

Epididymis	+	+	+	+	+	+	+	+	+	+	10
Preputial Gland	+	+	+	+	+	+	+	+	+	+	10
Prostate	+	+	+	+	+	+	+	+	+	+	10
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	10
Testes	+	+	+	+	+	+	+	+	+	+	10
Hypoplasia								3	1	3.0	

Hematopoietic System

Bone Marrow	+	+	+	+	+	+	+	+	+	+	10
Lymph Node, Bronchial	+	+	M	+	+	+	+	+	M	+	8
Lymph Node, Mandibular	+	+	+	M	+	M	+	M	+	M	6
Lymph Node, Mediastinal	M	M	M	M	M	M	M	M	+	M	2
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	M	+	9
Spleen	+	+	+	+	+	+	+	+	+	+	10
Thymus	+	+	+	+	+	+	+	+	+	+	10

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Male
400 mg/m³

DAY ON TEST	0 0 0 0 0 0 0 0 0 0										
	0 0 0 0 0 0 0 0 0 0										
ANIMAL ID	9 9 9 9 9 9 9 9 9 9										
	5 5 5 5 5 5 5 5 5 5										
0 0 0 0 0 0 0 0 0 0										*TOTALS	
1 1 1 1 1 1 1 1 1 1											
0 0 0 0 0 0 0 0 0 0											
0 0 0 0 0 0 0 0 0 0											
1 2 3 4 5 6 7 8 9 0											

Integumentary System

Mammary Gland	M	M	M	M	M	M	M	M	M	M	0
Skin	+	+	+	+	+	+	+	+	+	+	10

Musculoskeletal System

Bone	+	+	+	+	+	+	+	+	+	+	10
------	---	---	---	---	---	---	---	---	---	---	----

Nervous System

Brain	+	+	+	+	+	+	+	+	+	+	10
-------	---	---	---	---	---	---	---	---	---	---	----

Respiratory System

Larynx	+	+	+	+	+	+	+	+	+	+	10
Inflammation, Chronic Active											1 1.0
Metaplasia, Squamous	4	4	4	4	4	4	4	4	4	4	10 4.0
Squam Epithel, Hyperplasia	1	1	1	1	1		1	1	1	1	9 1.0
Lung	+	+	+	+	+	+	+	+	+	+	10
Arteriole, Hypertrophy							2				1 2.0
Bronchiole, Hyperplasia	2	2	2	2	2	2	2	2	2	2	10 2.0
Infiltration Cellular, Histiocyte	2	2	2	2	1	2	1	2	2	2	10 1.8
Perivascular, Inflammation, Chronic Active	2	2	2	2	1	2	1	2	2	2	10 1.8
Nose	+	+	+	+	+	+	+	+	+	+	10
Olfactory Epi, Accumulation, Hyaline Droplet	3	2	2	2	2	2	2	2	2	2	10 2.1
Respirat Epith, Accumulation, Hyaline Droplet	2	2	2	2	2	2	2	2	2	2	10 2.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

**B6C3F1 Mouse Male
400 mg/m³**

DAY ON TEST										
	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1
	1	2	3	4	5	6	7	8	9	0

*TOTALS

Trachea

+ + + + + + + + + + 10

Special Senses System

Eye + + + + + + + + + + 10

Harderian Gland + + + + + + + + + + 10

Urinary System

Kidney + + + + + + + + + + 10

Urinary Bladder + + + + + + + + + + 10

END OF MALE DATA

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
0 mg/m3 | DAY ON TEST | | | | | | | | | | |
|--------------------------------|-------------|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 10 |
| Gallbladder | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

Cardiovascular System

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|----|
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|----|

Endocrine System

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | + | + | M | + | + | M | M | M | M | + | 5 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
0 mg/m3 | DAY ON TEST | | | | | | | | | | |
|--------------------------------|-------------|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| General Body System | | | | | | | | | | | |
| NONE | | | | | | | | | | | |
| Genital System | | | | | | | | | | | |
| Clitoral Gland | + | + | M | + | + | + | + | M | + | + | 8 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 10 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 10 |
| Hematopoietic System | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 10 |
| Lymph Node, Bronchial | + | + | M | M | M | + | M | + | + | + | 6 |
| Lymph Node, Mandibular | + | + | M | M | + | + | + | M | M | + | 6 |
| Lymph Node, Mediastinal | + | M | M | M | M | + | M | M | M | M | 2 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | M | 9 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 10 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 10 |
| Integumentary System | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Skin | + | + | + | + | + | + | + | + | + | + | 10 |
| Musculoskeletal System | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
0 mg/m3 | DAY ON TEST | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | *TOTALS |
| Bone | + | + | + | + | + | + | + | + | + | + | 10 |
| Nervous System | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | 10 |
| Respiratory System | | | | | | | | | | | |
| Larynx | + | + | + | + | + | + | + | + | + | + | 10 |
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Cyst | | | | | | 2 | | | | | 1 2.0 |
| Olfactory Epi, Accumulation, Hyaline Droplet | | | | | 2 | | | | | | 1 2.0 |
| Respirat Epith, Accumulation, Hyaline Droplet | | | | | 2 | | | | | | 1 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 10 |
| Special Senses System | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | 10 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 10 |
| Urinary System | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | 10 |
| Nephropathy | | | | | | | | | | | 1 1.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 10 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

DAY ON TEST

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

**B6C3F1 Mouse Female
25 mg/m3**

ANIMAL ID

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

***TOTALS**

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
25 mg/m3 | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|-------------|---|---|---|---|---|---|---|---|---|
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

*TOTALS

Respiratory System

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| Larynx | + | + | + | + | + | + | + | + | + | + | 10 |
| Metaplasia, Squamous | 4 | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 4 | 4 | 10 3.7 |
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Olfactory Epi, Accumulation, Hyaline Droplet | 1 | | 1 | | | | | | | | 2 1.0 |
| Respirat Epith, Accumulation, Hyaline Droplet | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 10 |

Special Senses System

| | | |
|-----|---|---|
| Eye | + | 1 |
|-----|---|---|

Urinary System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
50 mg/m ³ | DAY ON TEST | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| | | | | | | | | | | | *TOTALS |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
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Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
50 mg/m ³ | DAY ON TEST | | | | | | | | | | |
|---|--|---|---|---|---|---|---|---|---|---|---------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | |
| | *TOTALS | | | | | | | | | | |
| | Larynx | + | + | + | + | + | + | + | + | + | 10 |
| | Metaplasia, Squamous | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 10 4.0 |
| | Lung | + | + | + | + | + | + | + | + | + | 10 |
| | Arteriole, Hypertrophy | | | | | | | | | | 3 1 3.0 |
| Respirat Epith, Accumulation, Hyaline Droplet | Perivascular, Inflammation, Chronic Active | | | | | | | | | | 2 1 2.0 |
| | Nose | + | + | + | + | + | + | + | + | + | 10 |
| | Olfactory Epi, Accumulation, Hyaline Droplet | | | | | 1 | 1 | 1 | 1 | | 4 1.0 |
| | Respirat Epith, Accumulation, Hyaline | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10 1.0 |
| Trachea | | + | + | + | + | + | + | + | + | + | 10 |
| | Eye | | | | | + | | | | | 1 |
| Special Senses System | | | | | | | | | | | |
| Urinary System | | | | | | | | | | | |
| NONE | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
100 mg/m3 | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------|---|---|---|---|---|---|---|---|---|
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

*TOTALS

Alimentary System

NONE

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

NONE

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
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Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
100 mg/m3 | DAY ON TEST | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
|----------------------------------|---------------------|---------------------|--|--|--|--|--|--|--|--|--|
| | | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
| ANIMAL ID | 9 9 9 9 9 9 9 9 9 9 | | | | | | | | | | |
| | 6 6 6 6 6 6 6 6 6 6 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 7 7 7 7 7 7 7 7 7 7 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 1 | | | | | | | | | | |
| | 1 2 3 4 5 6 7 8 9 0 | | | | | | | | | | |
| | | *TOTALS | | | | | | | | | |
| | | | | | | | | | | | |

Respiratory System

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| Larynx | + | + | + | + | + | + | + | + | + | + | 10 |
| Metaplasia, Squamous | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 10 4.0 |
| Squam Epithel, Hyperplasia | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.0 |
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Olfactory Epi, Accumulation, Hyaline Droplet | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 9 1.3 |
| Respirat Epith, Accumulation, Hyaline Droplet | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 10 1.3 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 10 |

Special Senses System

NONE

Urinary System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:39

First Dose M/F: NA / NA

Lab: BNW

B6C3F1 Mouse Female

200 mg/m³

| DAY ON TEST | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

*TOTALS

Alimentary System

Liver

+ 1

Cardiovascular System

NONE

Endocrine System

NONE

General Body System

NONE

Genital System

Ovary

+ 1

Cyst

3 1 3.0

Hematopoietic System

NONE

Integumentary System

NONE

Musculoskeletal System

NONE

Nervous System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:40

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
200 mg/m3 | DAY ON TEST | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
|----------------------------------|---------------------|---------------------|--|--|--|--|--|--|--|--|--|
| | | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
| ANIMAL ID | 9 9 9 9 9 9 9 9 9 9 | | | | | | | | | | |
| | 6 6 6 6 6 6 6 6 6 6 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 9 9 9 9 9 9 9 9 9 9 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 1 | | | | | | | | | | |
| | 1 2 3 4 5 6 7 8 9 0 | | | | | | | | | | |
| | *TOTALS | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

NONE

Respiratory System

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|--------|
| Larynx | + | + | + | + | + | + | M | + | + | + | 9 |
| Metaplasia, Squamous | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 4 | 9 4.0 |
| Squam Epithel, Hyperplasia | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 | 1 | 8 1.0 |
| Lung | + | + | + | + | + | + | + | + | + | + | 10 |
| Bronchiole, Hyperplasia | | 1 | | | | 1 | | | | | 2 1.0 |
| Infiltration Cellular, Histiocyte | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 9 1.0 |
| Perivascular, Inflammation, Chronic Active | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 | | 7 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | 10 |
| Olfactory Epi, Accumulation, Hyaline Droplet | 2 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 2 | 10 1.6 |
| Respirat Epith, Accumulation, Hyaline Droplet | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 10 1.9 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 10 |

Special Senses System

| | | | |
|-----|---|---|---|
| Eye | + | + | 2 |
|-----|---|---|---|

Urinary System

NONE

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:40

First Dose M/F: NA / NA

Lab: BNW

| | DAY ON TEST | B6C3F1 Mouse Female | | | | | | | | | |
|-----------------------|-------------|---------------------|---|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 400 mg/m ³ | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| | | *TOTALS | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 10 |
| Gallbladder | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 10 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 10 |
| Liver | + | + | + | + | + | + | + | + | + | + | 10 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 10 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 10 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 10 |

Cardiovascular System

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|----|
| Heart | + | + | + | + | + | + | + | + | + | + | 10 |
|-------|---|---|---|---|---|---|---|---|---|---|----|

Endocrine System

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 10 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 10 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 10 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | M | 9 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:40

First Dose M/F: NA / NA

Lab: BNW

| | DAY ON TEST | B6C3F1 Mouse Female
400 mg/m3 | | | | | | | | | |
|-------------------------------|-------------|----------------------------------|---|---|---|---|---|---|---|---|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| *TOTALS | | | | | | | | | | | |
| Pituitary Gland | | + | + | + | + | + | + | + | + | + | + |
| Thyroid Gland | | + | + | + | + | + | + | + | + | + | + |
| General Body System | | | | | | | | | | | |
| NONE | | | | | | | | | | | |
| Genital System | | | | | | | | | | | |
| Clitoral Gland | | + | + | + | + | + | + | + | + | + | + |
| Ovary | | + | + | + | + | + | + | + | + | + | + |
| Uterus | | + | + | + | + | + | + | + | + | + | + |
| Hematopoietic System | | | | | | | | | | | |
| Bone Marrow | | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Bronchial | | + | + | + | + | + | + | + | M | + | + |
| Lymph Node, Mandibular | | + | + | M | + | + | + | + | M | + | M |
| Lymph Node, Mediastinal | | M | + | M | + | M | + | M | M | M | 4 |
| Lymph Node, Mesenteric | | + | + | + | + | + | + | M | + | + | + |
| Spleen | | + | + | + | + | + | + | + | + | + | + |
| Thymus | | + | + | + | + | + | + | + | + | + | + |
| Integumentary System | | | | | | | | | | | |
| Mammary Gland | | + | + | + | + | + | + | + | + | + | + |
| Skin | | + | + | + | + | + | + | + | + | + | + |
| Musculoskeletal System | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:40

First Dose M/F: NA / NA

Lab: BNW

| B6C3F1 Mouse Female
400 mg/m3 | DAY ON TEST | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
|----------------------------------|---------------------|---------------------|--|--|--|--|--|--|--|--|--|
| | | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | |
| ANIMAL ID | 9 9 9 9 9 9 9 9 9 9 | | | | | | | | | | |
| | 6 6 6 6 6 6 6 6 6 6 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | |
| | 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | |
| | 0 0 0 0 0 0 0 0 0 0 | | | | | | | | | | |
| | 1 2 3 4 5 6 7 8 9 0 | | | | | | | | | | |
| | | *TOTALS | | | | | | | | | |
| | | | | | | | | | | | |

Bone + + + + + + + + + + 10

Nervous System

Brain + + + + + + + + + + 10

Respiratory System

Larynx + + + + + + + + + + 10

Inflammation, Chronic Active 1 1 1.0

Metaplasia, Squamous 4 4 4 4 4 4 4 4 4 4 10 4.0

Squam Epithel, Hyperplasia 1 1 1 1 1 1 1 1 1 1 8 1.0

Lung + + + + + + + + + + 10

Bronchiole, Hyperplasia 2 2 2 2 2 2 2 2 2 2 10 2.0

Infiltration Cellular, Histiocyte 1 2 1 1 2 2 2 2 2 1 10 1.6

Perivascular, Inflammation, Chronic Active 1 2 1 1 2 3 3 2 1 1 10 1.7

Nose + + + + + + + + + + 10

Olfactory Epi, Accumulation, Hyaline Droplet 2 2 2 2 3 3 2 3 3 2 10 2.4

Respirat Epith, Accumulation, Hyaline Droplet 2 2 2 2 3 2 2 2 2 2 10 2.1

Trachea + + + + + + + + + + 10

Special Senses System

Eye + + + + + + + + + + 10

Harderian Gland + + + + + + + + + + 10

Urinary System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically M ..Missing tissue

X ..Lesion present A ..Autolysis precludes evaluation

I ..Insufficient tissue BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20516-02

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Mouse/B6C3F1

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: Metal working fluids (Trim SC210)

CAS Number: TRIMSC210

Date Report Requested: 10/21/2014

Time Report Requested: 23:43:40

First Dose M/F: NA / NA

Lab: BNW

DAY ON TEST

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |

B6C3F1 Mouse Female

400 mg/m3

ANIMAL ID

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |

***TOTALS**

Kidney

+ + + + + + + + + + 10

Nephropathy

1 1 1.0

Urinary Bladder

+ + + + + + + + + + 10

**** END OF REPORT ****

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

I ..Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

- 1) Minimal 3) Moderate
- 2) Mild 4) Marked