

**Experiment Number:** 20213 - 02  
**Test Type:** 39-WEEK  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**  
Abrasive blasting agents (blasting sand)  
**CAS Number:** BLASTINGSAND

**Date Report Requested:** 03/20/2012  
**Time Report Requested:** 13:33:37  
**First Dose M/F:** 04/20/09 / NA  
**Lab:** BNW

F1\_39 Wk. Core

**NTP Study Number:** C20213  
**Lock Date:** 08/17/2010  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** 25021 TSAC  
**Removal Date Range:** 01-Jan-2007 - 31-Dec-2011  
**Treatment Groups:** Include ALL  
**Study Gender:** Male  
**TDMSE Version:** 2.6.0.0\_007  
**PWG Approval Date:** NONE

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 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	HARLAN SPRAGUE DAWLEY RATS MALE Control	ANIMAL ID	0	0	0	0	0	0	0	0
	2	2	2	2	2	2	2	2			0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7			1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1			0	0	0	0	0	0	0	0
											1	1	2	2	3	5	5	5
											0	6	1	3	6	3	7	9
										<b>* TOTALS</b>								

**ALIMENTARY SYSTEM**

Intestine Small, Ileum	+	+	+	+	+	+	+	+	<b>8</b>
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	<b>8</b>
Liver				+					<b>1</b>
Hepatodiaphragmatic Nodule				4					<b>1 4.0</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

Lymph Node, Bronchial	+	+	+	M	+	+	+	+	<b>7</b>
Lymph Node, Mediastinal	I	+	+	+	+	+	+	+	<b>7</b>

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue  
 M .. Missing tissue  
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 BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked

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DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>	7	7	7	7	7	7	7	7	
<b>Control</b>	1	1	1	1	1	1	1	1	
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	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Pigmentation	2								1 2.0

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	<b>8</b>	
Lung	+	+	+	+	+	+	+	+	<b>8</b>	
Infiltration Cellular, Histiocyte	1	1	1					1		<b>4 1.0</b>
Inflammation, Chronic Active			1	1						<b>2 1.0</b>
Nose	+	+	+	+	+	+	+	+	<b>8</b>	
Olfactory Epithelium, Accumulation, Hyaline Droplet	2	1	2	2	1	1	1	3		<b>8 1.6</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	1	1	1	1			1	1		<b>6 1.0</b>
Trachea	+	+	+	+	+	+	+	+	<b>8</b>	

**SPECIAL SENSES SYSTEM**

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 Lab: BNW

<b>HARLAN SPRAGUE DAWLEY RATS</b> <b>MALE</b> <b>Control</b>	DAY ON TEST	0	0	0	0	0	0	0	0	
		2	2	2	2	2	2	2	2	
		7	7	7	7	7	7	7	7	
		1	1	1	1	1	1	1		
	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	2	2	3	5	5		
		0	6	1	3	6	3	7	9	
<b>* TOTALS</b>										

Lacrimal Gland

+

1

**URINARY SYSTEM**

NONE

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue  
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 First Dose M/F: 04/20/09 / NA  
 Lab: BNW

HARLAN SPRAGUE DAWLEY RATS MALE 15 mg/m3	DAY ON TEST	0 2 7 1	0 2 7 1	0 2 7 1	0 2 7 1	0 2 7 1	0 2 7 1	0 2 7 1	
	ANIMAL ID	0 2 1 0	0 2 1 6	0 2 2 1	0 2 2 3	0 2 3 6	0 2 5 3	0 2 5 7	
									<b>* TOTALS</b>

**ALIMENTARY SYSTEM**

Intestine Small, Ileum	+	+	+	+	+	+	+	+	<b>8</b>
Intestine Small, Jejunum	+	M	+	M	+	+	+	+	<b>6</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

Lymph Node										<b>1</b>
Lymph Node, Bronchial	M	+	+	I	+	+	M	+		<b>5</b>
Foreign Body		X	X			X				<b>3</b>
Infiltration Cellular, Histiocyte		3	1			1				<b>3 1.7</b>
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+		<b>8</b>

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 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	
<b>15 mg/m3</b>	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
ANIMAL ID	2	2	2	2	2	2	2	2	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Fibrosis			1						<b>1 1.0</b>
Foreign Body	X	X	X	X	X	X	X	X	<b>8</b>
Infiltration Cellular, Histiocyte	4	3	3	2	4	3	3	2	<b>8 3.0</b>

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	<b>8</b>	
Epiglottis, Metaplasia, Squamous		1							<b>1 1.0</b>	
Lung	+	+	+	+	+	+	+	+	<b>8</b>	
Foreign Body	X	X	X	X	X	X	X	X	<b>8</b>	
Infiltration Cellular, Histiocyte	2	2	1	1	2	1	1	2	<b>8 1.5</b>	
Inflammation, Chronic Active	1	1	1	1	1	1	1	1	<b>8 1.0</b>	
Metaplasia, Osseous		1				1			<b>2 1.0</b>	
Alveolar Epithelium, Hyperplasia	1	1	1	1	1	1	1	1	<b>8 1.0</b>	
Interstitialium, Fibrosis	1	1	1	1	1	1	1	1	<b>8 1.0</b>	
Nose	+	+	+	+	+	+	+	+	<b>8</b>	

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 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	
	<b>15 mg/m3</b>								
	ANIMAL ID								
	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	3	3	3	3	3	3	4	3	<b>8 3.1</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	1	1	1	1	1	1	1	1	<b>8 1.0</b>
Trachea	+	+	+	+	+	+	+	+	<b>8</b>

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue  
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 Lab: BNW

HARLAN SPRAGUE DAWLEY RATS MALE 30 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	
		2	2	2	2	2	2	2	2	
		7	7	7	7	7	7	7	7	
		1	1	1	1	1	1	1		
	ANIMAL ID	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0		
		4	4	4	4	4	4	4	4	
		1	1	2	2	3	5	5		
		0	6	1	3	6	3	7	9	
<b>* TOTALS</b>										

**ALIMENTARY SYSTEM**

Intestine Small, Ileum	+	+	+	+	+	+	+	+	<b>8</b>
Intestine Small, Jejunum	+	+	+	+	+	+	M	+	<b>7</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Testes						+	<b>1</b>
Bilateral, Atrophy						4	<b>1 4.0</b>

**HEMATOPOIETIC SYSTEM**

Lymph Node, Bronchial	+	+	+	+	+	+	M	+	<b>7</b>
Foreign Body	X	X		X	X	X		X	<b>6</b>
Infiltration Cellular, Histiocyte	1	1		2	1	2		1	<b>6 1.3</b>
Lymph Node, Mediastinal	+	+	+	+	+	+	+	+	<b>8</b>
Fibrosis							2		<b>1 2.0</b>

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DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
HARLAN SPRAGUE DAWLEY RATS MALE	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	
30 mg/m3	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
ANIMAL ID	4	4	4	4	4	4	4	4	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Foreign Body	X	X	X	X	X	X	X	X	<b>8</b>
Infiltration Cellular, Histiocyte	4	4	4	4	4	4	4	4	<b>8 4.0</b>

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx	+	+	+	+	+	+	+	+	<b>8</b>	
Epiglottis, Metaplasia, Squamous		1								<b>1 1.0</b>
Lung	+	+	+	+	+	+	+	+	<b>8</b>	
Foreign Body	X	X	X	X	X	X	X	X		<b>8</b>
Infiltration Cellular, Histiocyte	2	3	3	3	2	2	2	2		<b>8 2.4</b>
Inflammation, Chronic Active	1	1	2	1	1	1	1	1		<b>8 1.1</b>
Alveolar Epithelium, Hyperplasia	2	2	2	2	2	2	2	2		<b>8 2.0</b>
Interstitialium, Fibrosis	1	1	1	1	1	1	1	1		<b>8 1.0</b>
Nose	+	+	+	+	+	+	+	+	<b>8</b>	
Olfactory Epithelium, Accumulation, Hyaline Droplet	3	4	4	4	3	4	3	3		<b>8 3.5</b>

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DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
HARLAN SPRAGUE DAWLEY RATS MALE	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	
30 mg/m3	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
ANIMAL ID	4	4	4	4	4	4	4	4	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	1	2	1	2	1	1	1	1	<b>8 1.3</b>
Trachea	+	+	+	+	+	+	+	+	<b>8</b>

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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 + .. Tissue examined microscopically  
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	DAY ON TEST	0	0	0	0	0	0	0	0	
		2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS</b>		7	7	7	7	7	7	7	7	
<b>MALE</b>		1	1	1	1	1	1	1	1	
<b>60 mg/m3</b>	ANIMAL ID	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	
		6	6	6	6	6	6	6	6	
		1	1	2	2	3	5	5	5	
		0	6	1	3	6	3	7	9	
<b>* TOTALS</b>										

**ALIMENTARY SYSTEM**

Intestine Small, Ileum	+	+	+	M	+	+	+	+	<b>7</b>
Intestine Small, Jejunum	+	+	+	+	+	+	I	+	<b>7</b>

**CARDIOVASCULAR SYSTEM**

NONE

**ENDOCRINE SYSTEM**

NONE

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

NONE

**HEMATOPOIETIC SYSTEM**

Lymph Node									<b>1</b>	
Lumbar, Infiltration Cellular, Histiocyte										<b>1 1.0</b>
Lumbar, Pigmentation										<b>1 1.0</b>
Lymph Node, Bronchial	+	+	+	+	+	+	+	+	<b>8</b>	
Fibrosis							1	1		<b>2 1.0</b>
Foreign Body	X	X	X	X	X	X	X	X		<b>7</b>

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DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>	7	7	7	7	7	7	7	7	
<b>60 mg/m3</b>	1	1	1	1	1	1	1	1	
ANIMAL ID	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
	6	6	6	6	6	6	6	6	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Infiltration Cellular, Histiocyte		3	1	1	2	2	3	3	<b>7 2.1</b>
Lymph Node, Mediastinal		+	+	+	+	+	+	+	<b>8</b>
Fibrosis			2	2					<b>2 2.0</b>
Foreign Body		X	X	X	X	X	X	X	<b>8</b>
Infiltration Cellular, Histiocyte		4	4	4	4	4	4	4	<b>8 4.0</b>
Necrosis				1					<b>1 1.0</b>

**INTEGUMENTARY SYSTEM**

NONE

**MUSCULOSKELETAL SYSTEM**

NONE

**NERVOUS SYSTEM**

NONE

**RESPIRATORY SYSTEM**

Larynx		+	+	+	+	+	+	+	<b>8</b>
Epiglottis, Metaplasia, Squamous					1				<b>1 1.0</b>
Lung		+	+	+	+	+	+	+	<b>8</b>
Foreign Body		X	X	X	X	X	X	X	<b>8</b>
Infiltration Cellular, Histiocyte		3	3	3	3	3	3	3	<b>8 3.0</b>
Inflammation, Chronic Active		2	1	2	1	1	1	2	<b>8 1.6</b>
Proteinosis		3		1		1	1	1	<b>6 1.3</b>
Alveolar Epithelium, Hyperplasia		2	2	2	2	2	2	2	<b>8 2.0</b>

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

1-4 .. Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 20213 - 02  
 Test Type: 39-WEEK  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: RATS/HSD

**P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL**  
 Abrasive blasting agents (blasting sand)  
 CAS Number: BLASTINGSAND

Date Report Requested: 03/20/2012  
 Time Report Requested: 13:33:37  
 First Dose M/F: 04/20/09 / NA  
 Lab: BNW

DAY ON TEST	0	0	0	0	0	0	0	0	
	2	2	2	2	2	2	2	2	
<b>HARLAN SPRAGUE DAWLEY RATS MALE</b>	7	7	7	7	7	7	7	7	
	1	1	1	1	1	1	1	1	
	<b>60 mg/m3</b>								
	ANIMAL ID								
	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	
	6	6	6	6	6	6	6	6	
	1	1	2	2	3	5	5	5	
	0	6	1	3	6	3	7	9	
									<b>* TOTALS</b>
Alveolar Epithelium, Hyperplasia, Focal Interstitial, Fibrosis							4		<b>1 4.0</b>
	2	2	2	2	2	2	2	2	<b>8 2.0</b>
Nose	+	+	+	+	+	+	+	+	<b>8</b>
Olfactory Epithelium, Accumulation, Hyaline Droplet	3	3	4	4	3	4	3	3	<b>8 3.4</b>
Olfactory Epithelium, Metaplasia, Respiratory						1			<b>1 1.0</b>
Respiratory Epithelium, Accumulation, Hyaline Droplet	1	1	1	1	1	1	1	1	<b>8 1.0</b>
Trachea	+	+	+	+	+	+	+	+	<b>8</b>

**SPECIAL SENSES SYSTEM**

NONE

**URINARY SYSTEM**

NONE

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

\* .. Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade  
 + .. Tissue examined microscopically  
 X .. Lesion present  
 I .. Insufficient tissue  
 M .. Missing tissue  
 A .. Autolysis precludes evaluation  
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1-4 .. Lesion qualified as:  
 1) Minimal 3) Moderate  
 2) Mild 4) Marked