

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

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Abrasive blasting agents (blasting sand)

CAS Number: BLASTINGSAND

Date Report Requested: 03/20/2012

Time Report Requested: 13:25:31

First Dose M/F: 04/20/09 / NA

Lab: BNW

F1_4 Wk. SSAC

NTP Study Number: C20213
Lock Date: 08/17/2010
Cage Range: ALL
Date Range: ALL
Reasons For Removal: 25017 SSAC
Removal Date Range: 15-May-2009 - 15-May-2009
Treatment Groups: Include ALL
Study Gender: Male
TDMSE Version: 2.6.0.0_007
PWG Approval Date: NONE

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SUMMARY OF STATISTICALLY SIGNIFICANT ($P \leq .05$) RESULTS IN THE ANALYSIS OF ABRASIVE BLASTING AGENTS (BLASTING SAND)

MALE RATS

Organ

Lung

Nose: Olfactory Epithelium

Morphology

Foreign Body

Infiltration Cellular Histiocyte

Inflammation Chronic

Accumulation, Hyaline Droplet

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)
 LAST REMOVAL AT 4 WEEKS**

DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Lung				
Foreign Body				
LESION RATES				
OVERALL (a)	0/8 (0%)	8/8 (100%)	8/8 (100%)	8/8 (100%)
POLY-3 RATE (b)	0/8.00	8/8.00	8/8.00	8/8.00
POLY-3 PERCENT (g)	0%	100%	100%	100%
INT SACRIFICE 1	0/8 (0%)	8/8 (100%)	8/8 (100%)	8/8 (100%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	26 (I)	26 (I)	26 (I)
STATISTICAL TESTS				
POLY 3	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)

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DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Lung				
Infiltration Cellular Histiocyte				
LESION RATES				
OVERALL (a)	1/8 (13%)	1/8 (13%)	4/8 (50%)	8/8 (100%)
POLY-3 RATE (b)	1/8.00	1/8.00	4/8.00	8/8.00
POLY-3 PERCENT (g)	12.5%	12.5%	50%	100%
INT SACRIFICE 1	1/8 (13%)	1/8 (13%)	4/8 (50%)	8/8 (100%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	26 (I)	26 (I)	26 (I)	26 (I)
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.760	P=0.135	P<0.001**
POLY 1.5	P<0.001**	P=0.760	P=0.135	P<0.001**
POLY 6	P<0.001**	P=0.760	P=0.135	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.767N	P=0.141	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=1.000	P=0.049*	P<0.001**

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DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Lung				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/8 (0%)	2/8 (25%)	2/8 (25%)	3/8 (38%)
POLY-3 RATE (b)	0/8.00	2/8.00	2/8.00	3/8.00
POLY-3 PERCENT (g)	0%	25%	25%	37.5%
INT SACRIFICE 1	0/8 (0%)	2/8 (25%)	2/8 (25%)	3/8 (38%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	26 (I)	26 (I)	26 (I)
STATISTICAL TESTS				
POLY 3	P=0.086	P=0.223	P=0.223	P=0.086
POLY 1.5	P=0.086	P=0.223	P=0.223	P=0.086
POLY 6	P=0.086	P=0.223	P=0.223	P=0.086
COCH-ARM / FISHERS	P=0.084	P=0.233	P=0.233	P=0.100
MAX-ISO-POLY-3	P=0.056	P=0.063	P=0.063	P=0.020*

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 LAST REMOVAL AT 4 WEEKS**

DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Lung				
Metaplasia Osseous				
LESION RATES				
OVERALL (a)	0/8 (0%)	1/8 (13%)	2/8 (25%)	1/8 (13%)
POLY-3 RATE (b)	0/8.00	1/8.00	2/8.00	1/8.00
POLY-3 PERCENT (g)	0%	12.5%	25%	12.5%
INT SACRIFICE 1	0/8 (0%)	1/8 (13%)	2/8 (25%)	1/8 (13%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	26 (I)	26 (I)	26 (I)
STATISTICAL TESTS				
POLY 3	P=0.355	P=0.500	P=0.223	P=0.500
POLY 1.5	P=0.355	P=0.500	P=0.223	P=0.500
POLY 6	P=0.355	P=0.500	P=0.223	P=0.500
COCH-ARM / FISHERS	P=0.351	P=0.500	P=0.233	P=0.500
MAX-ISO-POLY-3	P=0.218	P=0.159	P=0.063	P=0.159

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 LAST REMOVAL AT 4 WEEKS**

DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Lung: Alveolar Epithelium Hyperplasia Focal				
LESION RATES				
OVERALL (a)	0/8 (0%)	0/8 (0%)	0/8 (0%)	1/8 (13%)
POLY-3 RATE (b)	0/8.00	0/8.00	0/8.00	1/8.00
POLY-3 PERCENT (g)	0%	0%	0%	12.5%
INT SACRIFICE 1	0/8 (0%)	0/8 (0%)	0/8 (0%)	1/8 (13%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	---	---	26 (I)
STATISTICAL TESTS				
POLY 3	P=0.197	(e)	(e)	P=0.500
POLY 1.5	P=0.197	(e)	(e)	P=0.500
POLY 6	P=0.197	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.193	(e)	(e)	P=0.500
MAX-ISO-POLY-3	P=0.124	(e)	(e)	P=0.159

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DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Nose: Olfactory Epithelium Accumulation, Hyaline Droplet				
LESION RATES				
OVERALL (a)	0/8 (0%)	2/8 (25%)	3/8 (38%)	2/8 (25%)
POLY-3 RATE (b)	0/8.00	2/8.00	3/8.00	2/8.00
POLY-3 PERCENT (g)	0%	25%	37.5%	25%
INT SACRIFICE 1	0/8 (0%)	2/8 (25%)	3/8 (38%)	2/8 (25%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	26 (I)	26 (I)	26 (I)
STATISTICAL TESTS				
POLY 3	P=0.211	P=0.223	P=0.086	P=0.223
POLY 1.5	P=0.211	P=0.223	P=0.086	P=0.223
POLY 6	P=0.211	P=0.223	P=0.086	P=0.223
COCH-ARM / FISHERS	P=0.208	P=0.233	P=0.100	P=0.233
MAX-ISO-POLY-3	P=0.105	P=0.063	P=0.020*	P=0.063

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 LAST REMOVAL AT 4 WEEKS**

DOSE	Males			
	Control	15 mg/m3	30 mg/m3	60 mg/m3
Nose: Olfactory Epithelium Metaplasia Respiratory				
LESION RATES				
OVERALL (a)	0/8 (0%)	1/8 (13%)	0/8 (0%)	0/8 (0%)
POLY-3 RATE (b)	0/8.00	1/8.00	0/8.00	0/8.00
POLY-3 PERCENT (g)	0%	12.5%	0%	0%
INT SACRIFICE 1	0/8 (0%)	1/8 (13%)	0/8 (0%)	0/8 (0%)
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	26 (l)	---	---
STATISTICAL TESTS				
POLY 3	P=0.555N	P=0.500	(e)	(e)
POLY 1.5	P=0.555N	P=0.500	(e)	(e)
POLY 6	P=0.555N	P=0.500	(e)	(e)
COCH-ARM / FISHERS	P=0.556N	P=0.500	(e)	(e)
MAX-ISO-POLY-3	P=0.388N	P=0.159	(e)	(e)

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LEGEND

- (a) Number of tumor-bearing animals/number of animals examined at site.
 - (b) Number of tumor-bearing animals/Poly-3 number
 - (d) Observed incidence at terminal kill.
 - (e) Value of statistic cannot be computed.
 - (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
 - (g) Poly-3 adjusted lifetime tumor incidence.
 - (n) No statistics are calculated if all dose groups have fewer than two tumors.
 - (I) Interim sacrifice
 - (T) Terminal sacrifice
 - # Tumor rates based on numbers of animals necropsied.
 - * To the right of any statistical result, indicates significance at ($P \leq 0.05$).
 - ** To the right of any statistical result, indicates significance at ($P \leq 0.01$).
 - N Indicates a negative trend for all tests
- The Cochran-Armitage and Fishers exact tests compare directly the overall incidence rates.

*** END OF REPORT ***