

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

F2_RD

NTP Study Number: C60311
Lock Date: 12/03/2008
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 2.6.0.0_007
PWG Approval Date: NONE

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SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS IN THE ANALYSIS OF COBALT

MALE RATS

Organ

Adrenal Cortex

Adrenal Medulla

Brain

Eye

Heart

Intestine Small, Duodenum

Islets, Pancreatic

Kidney

Larynx

Liver

Lung

Lung: Alveolar Epithelium

Lung: Alveolus

Lung: Bronchiole, Epithelium

Mesentery: Fat

Nose

Nose: Olfactory Epithelium

Nose: Respiratory Epithelium

Morphology

Accessory Adrenal Cortical Nodule

Hyperplasia

Hyperplasia

Compression

Cataract

Thrombosis

Inflammation Chronic

Hyperplasia

Accumulation, Hyaline Droplet

Cyst

Foreign Body

Inflammation

Basophilic Focus

Degeneration Cystic

Eosinophilic Focus

Hepatodiaphragmatic Nodule

Inflammation Chronic

Metaplasia Osseous

Thrombosis

Hyperplasia

Proteinosis

Hyperplasia

Necrosis

Inflammation

Inflammation Chronic

Thrombosis

Atrophy

Hyperplasia

Hyperplasia Basal Cell

Metaplasia Respiratory

Necrosis

Hyperplasia

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SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS IN THE ANALYSIS OF COBALT

Nose: Turbinate

Pancreas: Acinus
Preputial Gland
Prostate

Spleen
Stomach, Forestomach

Testes
Urinary Bladder

FEMALE RATS

Organ

Adrenal Cortex
Adrenal Medulla
Brain
Clitoral Gland
Eye
Harderian Gland
Larynx

Larynx: Respiratory Epithelium
Liver

Lung
Lung: Alveolar Epithelium
Lung: Alveolus
Lung: Bronchiole, Epithelium
Nose

Metaplasia
Necrosis
Atrophy
Hyperostosis
Atrophy
Ectasia
Hyperplasia
Inflammation Chronic
Hematopoietic Cell Proliferation
Edema
Mineralization
Infarct
Inflammation Granulomatous

Morphology

Accessory Adrenal Cortical Nodule
Hyperplasia
Hemorrhage
Inflammation Chronic
Metaplasia Osseous
Inflammation Chronic
Foreign Body
Inflammation
Hyperplasia
Basophilic Focus
Clear Cell Focus
Fatty Change
Hepatodiaphragmatic Nodule
Inflammation Chronic
Hyperplasia
Proteinosis
Hyperplasia
Foreign Body
Inflammation

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Nose: Olfactory Epithelium	Inflammation Chronic Thrombosis Accumulation, Hyaline Droplet Atrophy Hyperplasia Hyperplasia Basal Cell Metaplasia Respiratory
Nose: Respiratory Epithelium	Hyperplasia Metaplasia Necrosis
Nose: Turbinate	Atrophy
Pancreas: Acinus	Atrophy
Pituitary Gland	Angiectasis
Spleen	Fibrosis Hemorrhage
Stomach, Forestomach	Hyperplasia Ulcer
Stomach, Glandular	Ulcer

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex				
Accessory Adrenal Cortical Nodule				
LESION RATES				
OVERALL (a)	3/50 (6%)	0/50 (0%)	2/50 (4%)	3/50 (6%)
POLY-3 RATE (b)	3/39.84	0/40.08	2/41.40	3/40.61
POLY-3 PERCENT (g)	7.5%	0%	4.8%	7.4%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	682	---	583	628
STATISTICAL TESTS				
POLY 3	P=0.274	P=0.117N	P=0.482N	P=0.655N
POLY 1.5	P=0.272	P=0.117N	P=0.487N	P=0.656N
POLY 6	P=0.279	P=0.118N	P=0.483N	P=0.654N
COCH-ARM / FISHERS	P=0.268	P=0.121N	P=0.500N	P=0.661N
MAX-ISO-POLY-3	P=0.376	P=0.037N*	P=0.311N	P=0.490N

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

Adrenal Cortex
Degeneration

LESION RATES

OVERALL (a)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	1/39.73	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	2.5%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	663	---	---	---

STATISTICAL TESTS

POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

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DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex Hyperplasia				
LESION RATES				
OVERALL (a)	35/50 (70%)	24/50 (48%)	23/50 (46%)	29/50 (58%)
POLY-3 RATE (b)	35/43.98	24/42.84	23/43.43	29/44.71
POLY-3 PERCENT (g)	79.6%	56%	53%	64.9%
TERMINAL (d)	15/17 (88%)	13/20 (65%)	11/16 (69%)	10/16 (63%)
FIRST INCIDENCE	519	593	535	516
STATISTICAL TESTS				
POLY 3	P=0.269N	P=0.009N**	P=0.004N**	P=0.077N
POLY 1.5	P=0.307N	P=0.012N*	P=0.005N**	P=0.099N
POLY 6	P=0.226N	P=0.009N**	P=0.003N**	P=0.059N
COCH-ARM / FISHERS	P=0.368N	P=0.021N*	P=0.013N*	P=0.149N
MAX-ISO-POLY-3	P=0.019N*	P=0.005N**	P=0.002N**	P=0.047N*

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TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex				
Necrosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	1/40.26	1/41.22	0/39.94
POLY-3 PERCENT (g)	0%	2.5%	2.4%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	683	646	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

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 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Medulla Hyperplasia				
LESION RATES				
OVERALL (a)	19/50 (38%)	21/50 (42%)	9/50 (18%)	9/50 (18%)
POLY-3 RATE (b)	19/41.54	21/44.07	9/42.59	9/44.38
POLY-3 PERCENT (g)	45.7%	47.7%	21.1%	20.3%
TERMINAL (d)	9/17 (53%)	9/20 (45%)	4/16 (25%)	0/16 (0%)
FIRST INCIDENCE	611	540	535	478
STATISTICAL TESTS				
POLY 3	P<0.001N**	P=0.516	P=0.012N*	P=0.008N**
POLY 1.5	P<0.001N**	P=0.478	P=0.014N*	P=0.012N*
POLY 6	P<0.001N**	P=0.559	P=0.011N*	P=0.006N**
COCH-ARM / FISHERS	P<0.001N**	P=0.419	P=0.022N*	P=0.022N*
MAX-ISO-POLY-3	P<0.001N**	P=0.428	P=0.007N**	P=0.005N**

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

**Bone: Femur
Hyperostosis**

LESION RATES

OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	---

STATISTICAL TESTS

POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

Bone: Maxilla
Inflammation Chronic

LESION RATES

OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	1/40.05
POLY-3 PERCENT (g)	0%	0%	0%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	702

STATISTICAL TESTS

POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Compression				
LESION RATES				
OVERALL (a)	15/50 (30%)	14/50 (28%)	18/50 (36%)	7/50 (14%)
POLY-3 RATE (b)	15/41.35	14/45.20	18/44.11	7/42.12
POLY-3 PERCENT (g)	36.3%	31%	40.8%	16.6%
TERMINAL (d)	5/17 (29%)	1/20 (5%)	8/16 (50%)	1/16 (6%)
FIRST INCIDENCE	611	413	535	470
STATISTICAL TESTS				
POLY 3	P=0.062N	P=0.383N	P=0.416	P=0.033N*
POLY 1.5	P=0.058N	P=0.426N	P=0.389	P=0.036N*
POLY 6	P=0.075N	P=0.340N	P=0.432	P=0.032N*
COCH-ARM / FISHERS	P=0.060N	P=0.500N	P=0.335	P=0.045N*
MAX-ISO-POLY-3	P=0.044N*	P=0.307N	P=0.335	P=0.019N*

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Edema				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	2/39.85	0/40.08	0/40.91	1/40.09
POLY-3 PERCENT (g)	5%	0%	0%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	670	---	---	691
STATISTICAL TESTS				
POLY 3	P=0.558N	P=0.235N	P=0.231N	P=0.498N
POLY 1.5	P=0.559N	P=0.235N	P=0.232N	P=0.497N
POLY 6	P=0.557N	P=0.237N	P=0.233N	P=0.501N
COCH-ARM / FISHERS	P=0.560N	P=0.247N	P=0.247N	P=0.500N
MAX-ISO-POLY-3	P=0.141N	P=0.075N	P=0.075N	P=0.279N

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Hemorrhage				
LESION RATES				
OVERALL (a)	2/50 (4%)	3/50 (6%)	4/50 (8%)	3/50 (6%)
POLY-3 RATE (b)	2/40.24	3/41.39	4/41.68	3/41.34
POLY-3 PERCENT (g)	5%	7.3%	9.6%	7.3%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	519	413	582	552
STATISTICAL TESTS				
POLY 3	P=0.439	P=0.513	P=0.352	P=0.512
POLY 1.5	P=0.435	P=0.509	P=0.349	P=0.508
POLY 6	P=0.443	P=0.515	P=0.353	P=0.516
COCH-ARM / FISHERS	P=0.428	P=0.500	P=0.339	P=0.500
MAX-ISO-POLY-3	P=0.451	P=0.336	P=0.216	P=0.336

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TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

Ear
Inflammation Chronic

LESION RATES

OVERALL (a)	1/1 (100%)	5/5 (100%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	1/1.00	5/5.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	100%	100%	0%	0%
TERMINAL (d)	1/1 (100%)	4/4 (100%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	729 (T)	663	---	---

STATISTICAL TESTS

POLY 3	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)

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 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Eye				
Cataract				
LESION RATES				
OVERALL (a)	3/50 (6%)	9/50 (18%)	9/50 (18%)	7/50 (14%)
POLY-3 RATE (b)	3/40.16	9/40.08	9/41.78	7/40.62
POLY-3 PERCENT (g)	7.5%	22.5%	21.5%	17.2%
TERMINAL (d)	1/17 (6%)	9/20 (45%)	4/16 (25%)	4/16 (25%)
FIRST INCIDENCE	598	729 (T)	611	552
STATISTICAL TESTS				
POLY 3	P=0.356	P=0.055	P=0.065	P=0.158
POLY 1.5	P=0.355	P=0.058	P=0.064	P=0.160
POLY 6	P=0.353	P=0.048*	P=0.063	P=0.152
COCH-ARM / FISHERS	P=0.345	P=0.061	P=0.061	P=0.159
MAX-ISO-POLY-3	P=0.102	P=0.027*	P=0.036*	P=0.091

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Eye				
Metaplasia Osseous				
LESION RATES				
OVERALL (a)	31/50 (62%)	36/50 (72%)	33/50 (66%)	31/50 (62%)
POLY-3 RATE (b)	31/45.38	36/45.28	33/45.06	31/46.15
POLY-3 PERCENT (g)	68.3%	79.5%	73.2%	67.2%
TERMINAL (d)	11/17 (65%)	17/20 (85%)	14/16 (88%)	10/16 (63%)
FIRST INCIDENCE	441	540	548	491
STATISTICAL TESTS				
POLY 3	P=0.241N	P=0.149	P=0.382	P=0.544N
POLY 1.5	P=0.267N	P=0.171	P=0.413	P=0.553N
POLY 6	P=0.217N	P=0.121	P=0.309	P=0.539N
COCH-ARM / FISHERS	P=0.319N	P=0.198	P=0.418	P=0.582N
MAX-ISO-POLY-3	P=0.368N	P=0.097	P=0.293	P=0.451N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Harderian Gland Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart				
Cardiomyopathy				
LESION RATES				
OVERALL (a)	45/50 (90%)	44/50 (88%)	46/50 (92%)	39/50 (78%)
POLY-3 RATE (b)	45/48.79	44/48.35	46/48.76	39/47.28
POLY-3 PERCENT (g)	92.2%	91%	94.3%	82.5%
TERMINAL (d)	17/17 (100%)	20/20 (100%)	16/16 (100%)	14/16 (88%)
FIRST INCIDENCE	376	413	472	470
STATISTICAL TESTS				
POLY 3	P=0.068N	P=0.565N	P=0.495	P=0.106N
POLY 1.5	P=0.063N	P=0.529N	P=0.502	P=0.093N
POLY 6	P=0.081N	P=0.639N	P=0.469	P=0.141N
COCH-ARM / FISHERS	P=0.062N	P=0.500N	P=0.500	P=0.086N
MAX-ISO-POLY-3	P=0.059N	P=0.403N	P=0.321	P=0.059N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart Inflammation				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	2/50 (4%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	1/40.58	2/41.78	0/39.94
POLY-3 PERCENT (g)	0%	2.5%	4.8%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	580	598	---
STATISTICAL TESTS				
POLY 3	P=0.572N	P=0.505	P=0.249	(e)
POLY 1.5	P=0.572N	P=0.504	P=0.245	(e)
POLY 6	P=0.574N	P=0.507	P=0.253	(e)
COCH-ARM / FISHERS	P=0.574N	P=0.500	P=0.247	(e)
MAX-ISO-POLY-3	P=0.349N	P=0.165	P=0.088	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart Thrombosis				
LESION RATES				
OVERALL (a)	4/50 (8%)	2/50 (4%)	2/50 (4%)	0/50 (0%)
POLY-3 RATE (b)	4/40.43	2/40.33	2/41.14	0/39.94
POLY-3 PERCENT (g)	9.9%	5%	4.9%	0%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	441	663	678	---
STATISTICAL TESTS				
POLY 3	P=0.060N	P=0.337N	P=0.328N	P=0.061N
POLY 1.5	P=0.060N	P=0.336N	P=0.330N	P=0.060N
POLY 6	P=0.061N	P=0.340N	P=0.330N	P=0.062N
COCH-ARM / FISHERS	P=0.061N	P=0.339N	P=0.339N	P=0.059N
MAX-ISO-POLY-3	P=0.035N*	P=0.200N	P=0.195N	P=0.020N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Intestine Large, Colon: Mucosa Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/49 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.10	0/39.94
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Intestine Small, Duodenum Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	5/49 (10%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	5/40.98	0/39.94
POLY-3 PERCENT (g)	0%	0%	12.2%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	618	---
STATISTICAL TESTS				
POLY 3	P=0.342	(e)	P=0.033*	(e)
POLY 1.5	P=0.345	(e)	P=0.032*	(e)
POLY 6	P=0.336	(e)	P=0.034*	(e)
COCH-ARM / FISHERS	P=0.351	(e)	P=0.027*	(e)
MAX-ISO-POLY-3	P=0.089	(e)	P=0.012*	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Islets, Pancreatic Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/48 (2%)	3/49 (6%)
POLY-3 RATE (b)	0/39.48	1/40.12	1/39.15	3/39.20
POLY-3 PERCENT (g)	0%	2.5%	2.6%	7.7%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	3/16 (19%)
FIRST INCIDENCE	---	719	721	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.062	P=0.503	P=0.498	P=0.116
POLY 1.5	P=0.063	P=0.503	P=0.497	P=0.117
POLY 6	P=0.062	P=0.503	P=0.498	P=0.115
COCH-ARM / FISHERS	P=0.062	P=0.500	P=0.490	P=0.117
MAX-ISO-POLY-3	P=0.045*	P=0.162	P=0.159	P=0.037*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney				
Accumulation, Hyaline Droplet				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	4/50 (8%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	1/40.08	4/41.09	1/39.94
POLY-3 PERCENT (g)	0%	2.5%	9.7%	2.5%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	2/16 (13%)	1/16 (6%)
FIRST INCIDENCE	---	729 (T)	698	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.310	P=0.503	P=0.064	P=0.502
POLY 1.5	P=0.312	P=0.502	P=0.064	P=0.502
POLY 6	P=0.308	P=0.503	P=0.064	P=0.502
COCH-ARM / FISHERS	P=0.311	P=0.500	P=0.059	P=0.500
MAX-ISO-POLY-3	P=0.124	P=0.162	P=0.023*	P=0.161

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Cyst				
LESION RATES				
OVERALL (a)	0/50 (0%)	3/50 (6%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	3/40.51	0/40.91	1/39.94
POLY-3 PERCENT (g)	0%	7.4%	0%	2.5%
TERMINAL (d)	0/17 (0%)	2/20 (10%)	0/16 (0%)	1/16 (6%)
FIRST INCIDENCE	---	603	---	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.391N	P=0.122	(e)	P=0.502
POLY 1.5	P=0.394N	P=0.122	(e)	P=0.502
POLY 6	P=0.391N	P=0.123	(e)	P=0.502
COCH-ARM / FISHERS	P=0.402N	P=0.121	(e)	P=0.500
MAX-ISO-POLY-3	P=0.288	P=0.041*	(e)	P=0.161

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Infarct				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	2/39.63	0/40.08	0/40.91	1/40.20
POLY-3 PERCENT (g)	5.1%	0%	0%	2.5%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	691	---	---	660
STATISTICAL TESTS				
POLY 3	P=0.559N	P=0.234N	P=0.229N	P=0.495N
POLY 1.5	P=0.559N	P=0.235N	P=0.231N	P=0.496N
POLY 6	P=0.558N	P=0.235N	P=0.230N	P=0.495N
COCH-ARM / FISHERS	P=0.560N	P=0.247N	P=0.247N	P=0.500N
MAX-ISO-POLY-3	P=0.140N	P=0.075N	P=0.075N	P=0.277N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Nephropathy				
LESION RATES				
OVERALL (a)	49/50 (98%)	49/50 (98%)	50/50 (100%)	50/50 (100%)
POLY-3 RATE (b)	49/49.22	49/49.54	50/50.00	50/50.00
POLY-3 PERCENT (g)	99.6%	98.9%	100%	100%
TERMINAL (d)	17/17 (100%)	20/20 (100%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	376	413	472	470
STATISTICAL TESTS				
POLY 3	P=0.456	P=0.878N	P=1.000	P=1.000
POLY 1.5	P=0.296	P=0.800N	P=0.867	P=0.867
POLY 6	P=0.857	P=0.995N	P=1.000	P=1.000
COCH-ARM / FISHERS	P=0.198	P=0.753N	P=0.500	P=0.500
MAX-ISO-POLY-3	P=0.298	P=0.297N	P=0.161	P=0.161

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

**Kidney: Renal Tubule
Hyperplasia**

LESION RATES

OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	---

STATISTICAL TESTS

POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx				
Foreign Body				
LESION RATES				
OVERALL (a)	3/50 (6%)	0/50 (0%)	2/50 (4%)	0/50 (0%)
POLY-3 RATE (b)	3/39.63	0/40.08	2/41.40	0/39.94
POLY-3 PERCENT (g)	7.6%	0%	4.8%	0%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	702	---	618	---
STATISTICAL TESTS				
POLY 3	P=0.232N	P=0.116N	P=0.480N	P=0.116N
POLY 1.5	P=0.232N	P=0.116N	P=0.486N	P=0.117N
POLY 6	P=0.231N	P=0.116N	P=0.477N	P=0.117N
COCH-ARM / FISHERS	P=0.234N	P=0.121N	P=0.500N	P=0.121N
MAX-ISO-POLY-3	P=0.044N*	P=0.037N*	P=0.309N	P=0.037N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx Inflammation				
LESION RATES				
OVERALL (a)	28/50 (56%)	18/50 (36%)	18/50 (36%)	16/50 (32%)
POLY-3 RATE (b)	28/46.45	18/42.05	18/43.54	16/42.49
POLY-3 PERCENT (g)	60.3%	42.8%	41.3%	37.7%
TERMINAL (d)	8/17 (47%)	8/20 (40%)	5/16 (31%)	3/16 (19%)
FIRST INCIDENCE	376	580	582	552
STATISTICAL TESTS				
POLY 3	P=0.045N*	P=0.068N	P=0.049N*	P=0.022N*
POLY 1.5	P=0.044N*	P=0.050N*	P=0.041N*	P=0.017N*
POLY 6	P=0.047N*	P=0.101N	P=0.065N	P=0.031N*
COCH-ARM / FISHERS	P=0.045N*	P=0.035N*	P=0.035N*	P=0.013N*
MAX-ISO-POLY-3	P=0.026N*	P=0.051N	P=0.035N*	P=0.016N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx Metaplasia				
LESION RATES				
OVERALL (a)	3/50 (6%)	1/50 (2%)	1/50 (2%)	2/50 (4%)
POLY-3 RATE (b)	3/40.45	1/40.26	1/40.91	2/40.22
POLY-3 PERCENT (g)	7.4%	2.5%	2.4%	5%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	376	683	729 (T)	689
STATISTICAL TESTS				
POLY 3	P=0.538N	P=0.306N	P=0.300N	P=0.503N
POLY 1.5	P=0.538N	P=0.305N	P=0.301N	P=0.501N
POLY 6	P=0.539N	P=0.307N	P=0.303N	P=0.505N
COCH-ARM / FISHERS	P=0.540N	P=0.309N	P=0.309N	P=0.500N
MAX-ISO-POLY-3	P=0.304N	P=0.154N	P=0.151N	P=0.325N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

Larynx: Respiratory Epithelium
Hyperplasia

LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	1/40.06
POLY-3 PERCENT (g)	0%	0%	0%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	698

STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Atrophy				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	1/39.85	0/40.08	0/40.91	2/39.94
POLY-3 PERCENT (g)	2.5%	0%	0%	5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	2/16 (13%)
FIRST INCIDENCE	626	---	---	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.194	P=0.499N	P=0.495N	P=0.501
POLY 1.5	P=0.195	P=0.498N	P=0.496N	P=0.502
POLY 6	P=0.194	P=0.501N	P=0.497N	P=0.497
COCH-ARM / FISHERS	P=0.194	P=0.500N	P=0.500N	P=0.500
MAX-ISO-POLY-3	P=0.142	P=0.158N	P=0.158N	P=0.281

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Basophilic Focus				
LESION RATES				
OVERALL (a)	5/50 (10%)	17/50 (34%)	17/50 (34%)	19/50 (38%)
POLY-3 RATE (b)	5/40.02	17/43.51	17/43.21	19/43.28
POLY-3 PERCENT (g)	12.5%	39.1%	39.3%	43.9%
TERMINAL (d)	4/17 (24%)	7/20 (35%)	9/16 (56%)	6/16 (38%)
FIRST INCIDENCE	562	413	548	470
STATISTICAL TESTS				
POLY 3	P=0.020*	P=0.004**	P=0.004**	P<0.001**
POLY 1.5	P=0.018*	P=0.004**	P=0.004**	P<0.001**
POLY 6	P=0.022*	P=0.005**	P=0.004**	P<0.001**
COCH-ARM / FISHERS	P=0.017*	P=0.004**	P=0.004**	P<0.001**
MAX-ISO-POLY-3	P=0.002**	P=0.003**	P=0.002**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Clear Cell Focus				
LESION RATES				
OVERALL (a)	9/50 (18%)	11/50 (22%)	7/50 (14%)	9/50 (18%)
POLY-3 RATE (b)	9/39.48	11/41.93	7/41.43	9/40.89
POLY-3 PERCENT (g)	22.8%	26.2%	16.9%	22%
TERMINAL (d)	9/17 (53%)	6/20 (30%)	5/16 (31%)	6/16 (38%)
FIRST INCIDENCE	729 (T)	562	628	572
STATISTICAL TESTS				
POLY 3	P=0.360N	P=0.459	P=0.348N	P=0.573N
POLY 1.5	P=0.364N	P=0.435	P=0.363N	P=0.583N
POLY 6	P=0.359N	P=0.495	P=0.335N	P=0.560N
COCH-ARM / FISHERS	P=0.376N	P=0.402	P=0.393N	P=0.602N
MAX-ISO-POLY-3	P=0.473N	P=0.361	P=0.256N	P=0.466N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Degeneration Cystic				
LESION RATES				
OVERALL (a)	0/50 (0%)	5/50 (10%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	5/40.85	0/40.91	1/40.51
POLY-3 PERCENT (g)	0%	12.2%	0%	2.5%
TERMINAL (d)	0/17 (0%)	2/20 (10%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	618	---	552
STATISTICAL TESTS				
POLY 3	P=0.160N	P=0.032*	(e)	P=0.505
POLY 1.5	P=0.164N	P=0.032*	(e)	P=0.504
POLY 6	P=0.157N	P=0.033*	(e)	P=0.506
COCH-ARM / FISHERS	P=0.178N	P=0.028*	(e)	P=0.500
MAX-ISO-POLY-3	P=0.196N	P=0.011*	(e)	P=0.165

Experiment Number: 60311 - 05
 Test Type: CHRONIC
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 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Eosinophilic Focus				
LESION RATES				
OVERALL (a)	3/50 (6%)	2/50 (4%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	3/39.48	2/40.08	0/40.91	1/40.51
POLY-3 PERCENT (g)	7.6%	5%	0%	2.5%
TERMINAL (d)	3/17 (18%)	2/20 (10%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	729 (T)	---	552
STATISTICAL TESTS				
POLY 3	P=0.154N	P=0.493N	P=0.111N	P=0.295N
POLY 1.5	P=0.155N	P=0.494N	P=0.114N	P=0.298N
POLY 6	P=0.152N	P=0.494N	P=0.111N	P=0.292N
COCH-ARM / FISHERS	P=0.158N	P=0.500N	P=0.121N	P=0.309N
MAX-ISO-POLY-3	P=0.116N	P=0.318N	P=0.037N*	P=0.149N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Fatty Change				
LESION RATES				
OVERALL (a)	2/50 (4%)	4/50 (8%)	3/50 (6%)	4/50 (8%)
POLY-3 RATE (b)	2/39.89	4/40.95	3/42.16	4/41.16
POLY-3 PERCENT (g)	5%	9.8%	7.1%	9.7%
TERMINAL (d)	0/17 (0%)	2/20 (10%)	0/16 (0%)	1/16 (6%)
FIRST INCIDENCE	663	439	583	478
STATISTICAL TESTS				
POLY 3	P=0.408	P=0.348	P=0.525	P=0.351
POLY 1.5	P=0.403	P=0.346	P=0.517	P=0.347
POLY 6	P=0.412	P=0.346	P=0.531	P=0.352
COCH-ARM / FISHERS	P=0.391	P=0.339	P=0.500	P=0.339
MAX-ISO-POLY-3	P=0.366	P=0.211	P=0.349	P=0.214

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 Test Type: CHRONIC
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 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Hepatodiaphragmatic Nodule				
LESION RATES				
OVERALL (a)	4/50 (8%)	9/50 (18%)	11/50 (22%)	9/50 (18%)
POLY-3 RATE (b)	4/40.43	9/42.22	11/43.12	9/41.42
POLY-3 PERCENT (g)	9.9%	21.3%	25.5%	21.7%
TERMINAL (d)	0/17 (0%)	2/20 (10%)	2/16 (13%)	4/16 (25%)
FIRST INCIDENCE	611	596	582	590
STATISTICAL TESTS				
POLY 3	P=0.192	P=0.128	P=0.055	P=0.120
POLY 1.5	P=0.193	P=0.124	P=0.051	P=0.120
POLY 6	P=0.188	P=0.134	P=0.057	P=0.119
COCH-ARM / FISHERS	P=0.189	P=0.117	P=0.045*	P=0.117
MAX-ISO-POLY-3	P=0.102	P=0.079	P=0.033*	P=0.071

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 Test Type: CHRONIC
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 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/39.48	0/40.08	0/40.91	1/40.10
POLY-3 PERCENT (g)	2.5%	0%	0%	2.5%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	---	---	689
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Mixed Cell Focus				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	1/40.08	1/40.91	1/39.94
POLY-3 PERCENT (g)	0%	2.5%	2.4%	2.5%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	1/16 (6%)	1/16 (6%)
FIRST INCIDENCE	---	729 (T)	729 (T)	729 (T)
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Necrosis				
LESION RATES				
OVERALL (a)	5/50 (10%)	6/50 (12%)	4/50 (8%)	2/50 (4%)
POLY-3 RATE (b)	5/40.56	6/41.67	4/41.91	2/40.12
POLY-3 PERCENT (g)	12.3%	14.4%	9.5%	5%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	441	540	598	689
STATISTICAL TESTS				
POLY 3	P=0.100N	P=0.519	P=0.479N	P=0.218N
POLY 1.5	P=0.099N	P=0.512	P=0.485N	P=0.216N
POLY 6	P=0.104N	P=0.527	P=0.477N	P=0.222N
COCH-ARM / FISHERS	P=0.099N	P=0.500	P=0.500N	P=0.218N
MAX-ISO-POLY-3	P=0.167N	P=0.391	P=0.345N	P=0.122N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
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 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver Regeneration				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	1/41.15	0/39.94
POLY-3 PERCENT (g)	0%	0%	2.4%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	667	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	22/50 (44%)	50/50 (100%)	50/50 (100%)	50/50 (100%)
POLY-3 RATE (b)	22/42.36	50/50.00	50/50.00	50/50.00
POLY-3 PERCENT (g)	51.9%	100%	100%	100%
TERMINAL (d)	11/17 (65%)	20/20 (100%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	441	413	472	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung				
Metaplasia Osseous				
LESION RATES				
OVERALL (a)	3/50 (6%)	3/50 (6%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	3/39.66	3/40.83	0/40.91	0/39.94
POLY-3 PERCENT (g)	7.6%	7.4%	0%	0%
TERMINAL (d)	1/17 (6%)	1/20 (5%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	688	577	---	---
STATISTICAL TESTS				
POLY 3	P=0.022N*	P=0.650N	P=0.112N	P=0.116N
POLY 1.5	P=0.022N*	P=0.654N	P=0.114N	P=0.117N
POLY 6	P=0.022N*	P=0.647N	P=0.112N	P=0.117N
COCH-ARM / FISHERS	P=0.023N*	P=0.661N	P=0.121N	P=0.121N
MAX-ISO-POLY-3	P=0.036N*	P=0.485N	P=0.037N*	P=0.037N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung Thrombosis				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/39.87	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	5%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	626	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.184N	P=0.235N	P=0.231N	P=0.236N
POLY 1.5	P=0.185N	P=0.235N	P=0.232N	P=0.236N
POLY 6	P=0.182N	P=0.237N	P=0.232N	P=0.238N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.036N*	P=0.075N	P=0.075N	P=0.075N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolar Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	3/50 (6%)	47/50 (94%)	49/50 (98%)	49/50 (98%)
POLY-3 RATE (b)	3/39.82	47/48.82	49/49.80	49/49.87
POLY-3 PERCENT (g)	7.5%	96.3%	98.4%	98.3%
TERMINAL (d)	1/17 (6%)	20/20 (100%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	682	413	472	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolar Epithelium Metaplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolus Proteinosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	48/50 (96%)	49/50 (98%)	49/50 (98%)
POLY-3 RATE (b)	0/39.48	48/49.29	49/49.61	49/49.95
POLY-3 PERCENT (g)	0%	97.4%	98.8%	98.1%
TERMINAL (d)	0/17 (0%)	20/20 (100%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	---	413	472	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Bronchiole, Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	44/50 (88%)	47/50 (94%)	50/50 (100%)
POLY-3 RATE (b)	0/39.48	44/49.08	47/49.20	50/50.00
POLY-3 PERCENT (g)	0%	89.7%	95.5%	100%
TERMINAL (d)	0/17 (0%)	17/20 (85%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	---	413	472	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lymph Node, Mandibular Ectasia				
LESION RATES				
OVERALL (a)	1/48 (2%)	2/49 (4%)	1/50 (2%)	2/48 (4%)
POLY-3 RATE (b)	1/37.73	2/40.37	1/41.33	2/38.96
POLY-3 PERCENT (g)	2.7%	5%	2.4%	5.1%
TERMINAL (d)	1/16 (6%)	1/20 (5%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	439	611	660
STATISTICAL TESTS				
POLY 3	P=0.502	P=0.524	P=0.741N	P=0.511
POLY 1.5	P=0.499	P=0.518	P=0.744N	P=0.507
POLY 6	P=0.505	P=0.528	P=0.739N	P=0.516
COCH-ARM / FISHERS	P=0.493	P=0.508	P=0.742N	P=0.500
MAX-ISO-POLY-3	P=0.470	P=0.304	P=0.474N	P=0.292

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lymph Node, Mandibular Hyperplasia				
LESION RATES				
OVERALL (a)	1/48 (2%)	2/49 (4%)	1/50 (2%)	1/48 (2%)
POLY-3 RATE (b)	1/38.58	2/40.17	1/40.91	1/39.38
POLY-3 PERCENT (g)	2.6%	5%	2.4%	2.5%
TERMINAL (d)	0/16 (0%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	383	634	729 (T)	470
STATISTICAL TESTS				
POLY 3	P=0.449N	P=0.514	P=0.748N	P=0.757N
POLY 1.5	P=0.451N	P=0.511	P=0.748N	P=0.758N
POLY 6	P=0.450N	P=0.518	P=0.750N	P=0.756N
COCH-ARM / FISHERS	P=0.454N	P=0.508	P=0.742N	P=0.753N
MAX-ISO-POLY-3	P=0.585N	P=0.294	P=0.483N	P=0.493N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lymph Node: Renal Ectasia				
LESION RATES				
OVERALL (a)	2/12 (17%)	3/9 (33%)	1/5 (20%)	1/9 (11%)
POLY-3 RATE (b)	2/10.52	3/8.11	1/4.60	1/6.42
POLY-3 PERCENT (g)	19%	37%	21.7%	15.6%
TERMINAL (d)	0/3 (0%)	1/4 (25%)	0/0 (0%)	1/2 (50%)
FIRST INCIDENCE	678	674	628	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.401N	P=0.368	P=0.711	P=0.673N
POLY 1.5	P=0.356N	P=0.363	P=0.702	P=0.641N
POLY 6	P=0.466N	P=0.381	P=0.724	P=0.719N
COCH-ARM / FISHERS	P=0.303N	P=0.353	P=0.676	P=0.612N
MAX-ISO-POLY-3	P=0.534N	P=0.209	P=0.459	P=0.440N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mammary Gland Galactocele				
LESION RATES				
OVERALL (a)	2/31 (6%)	1/32 (3%)	1/30 (3%)	0/31 (0%)
POLY-3 RATE (b)	2/25.60	1/26.11	1/23.84	0/25.38
POLY-3 PERCENT (g)	7.8%	3.8%	4.2%	0%
TERMINAL (d)	0/12 (0%)	1/12 (8%)	0/7 (0%)	0/12 (0%)
FIRST INCIDENCE	663	729 (T)	652	---
STATISTICAL TESTS				
POLY 3	P=0.183N	P=0.493N	P=0.525N	P=0.237N
POLY 1.5	P=0.183N	P=0.488N	P=0.516N	P=0.235N
POLY 6	P=0.182N	P=0.507N	P=0.545N	P=0.240N
COCH-ARM / FISHERS	P=0.181N	P=0.488N	P=0.513N	P=0.246N
MAX-ISO-POLY-3	P=0.129N	P=0.273N	P=0.304N	P=0.075N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mammary Gland Hyperplasia				
LESION RATES				
OVERALL (a)	2/31 (6%)	1/32 (3%)	1/30 (3%)	0/31 (0%)
POLY-3 RATE (b)	2/25.14	1/26.11	1/23.55	0/25.38
POLY-3 PERCENT (g)	8%	3.8%	4.3%	0%
TERMINAL (d)	2/12 (17%)	1/12 (8%)	1/7 (14%)	0/12 (0%)
FIRST INCIDENCE	729 (T)	729 (T)	729 (T)	---
STATISTICAL TESTS				
POLY 3	P=0.183N	P=0.487N	P=0.523N	P=0.232N
POLY 1.5	P=0.183N	P=0.485N	P=0.515N	P=0.233N
POLY 6	P=0.180N	P=0.495N	P=0.542N	P=0.232N
COCH-ARM / FISHERS	P=0.181N	P=0.488N	P=0.513N	P=0.246N
MAX-ISO-POLY-3	P=0.126N	P=0.269N	P=0.302N	P=0.073N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mesentery: Fat Necrosis				
LESION RATES				
OVERALL (a)	14/18 (78%)	4/4 (100%)	8/9 (89%)	1/3 (33%)
POLY-3 RATE (b)	14/16.65	4/4.00	8/8.82	1/2.87
POLY-3 PERCENT (g)	84.1%	100%	90.7%	34.8%
TERMINAL (d)	6/7 (86%)	1/1 (100%)	2/2 (100%)	0/1 (0%)
FIRST INCIDENCE	383	583	472	713
STATISTICAL TESTS				
POLY 3	P=0.088N	P=0.490	P=0.562	P=0.113N
POLY 1.5	P=0.117N	P=0.436	P=0.509	P=0.137N
POLY 6	P=0.067N	P=0.571	P=0.624	P=0.094N
COCH-ARM / FISHERS	P=0.184N	P=0.418	P=0.447	P=0.184N
MAX-ISO-POLY-3	P=0.043N*	P=0.227	P=0.330	P=0.055N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Foreign Body				
LESION RATES				
OVERALL (a)	5/48 (10%)	2/47 (4%)	4/45 (9%)	5/50 (10%)
POLY-3 RATE (b)	5/38.73	2/38.21	4/38.24	5/41.02
POLY-3 PERCENT (g)	12.9%	5.2%	10.5%	12.2%
TERMINAL (d)	1/17 (6%)	1/20 (5%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	626	562	611	478
STATISTICAL TESTS				
POLY 3	P=0.364	P=0.219N	P=0.508N	P=0.595N
POLY 1.5	P=0.362	P=0.220N	P=0.517N	P=0.595N
POLY 6	P=0.363	P=0.222N	P=0.506N	P=0.602N
COCH-ARM / FISHERS	P=0.354	P=0.226N	P=0.541N	P=0.603N
MAX-ISO-POLY-3	P=0.491N	P=0.121N	P=0.369N	P=0.461N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose Inflammation				
LESION RATES				
OVERALL (a)	9/48 (19%)	12/47 (26%)	24/45 (53%)	46/50 (92%)
POLY-3 RATE (b)	9/40.18	12/40.17	24/39.99	46/48.70
POLY-3 PERCENT (g)	22.4%	29.9%	60%	94.5%
TERMINAL (d)	0/17 (0%)	4/20 (20%)	11/16 (69%)	15/16 (94%)
FIRST INCIDENCE	376	439	611	470
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.304	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.301	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.302	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.292	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.223	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	28/48 (58%)	35/47 (74%)	40/45 (89%)	49/50 (98%)
POLY-3 RATE (b)	28/43.98	35/43.24	40/44.17	49/49.31
POLY-3 PERCENT (g)	63.7%	81%	90.6%	99.4%
TERMINAL (d)	10/17 (59%)	18/20 (90%)	14/16 (88%)	16/16 (100%)
FIRST INCIDENCE	376	439	535	470
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.046*	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.055	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.039*	P=0.002**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.074	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.026*	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Thrombosis				
LESION RATES				
OVERALL (a)	7/48 (15%)	2/47 (4%)	4/45 (9%)	2/50 (4%)
POLY-3 RATE (b)	7/39.97	2/38.49	4/38.54	2/40.46
POLY-3 PERCENT (g)	17.5%	5.2%	10.4%	4.9%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	441	540	598	628
STATISTICAL TESTS				
POLY 3	P=0.162N	P=0.085N	P=0.279N	P=0.073N
POLY 1.5	P=0.161N	P=0.084N	P=0.284N	P=0.071N
POLY 6	P=0.165N	P=0.088N	P=0.280N	P=0.078N
COCH-ARM / FISHERS	P=0.163N	P=0.084N	P=0.300N	P=0.070N
MAX-ISO-POLY-3	P=0.046N*	P=0.043N*	P=0.181N	P=0.035N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Accumulation, Hyaline Droplet				
LESION RATES				
OVERALL (a)	2/48 (4%)	4/47 (9%)	1/45 (2%)	2/50 (4%)
POLY-3 RATE (b)	2/38.43	4/38.73	1/37.60	2/40.10
POLY-3 PERCENT (g)	5.2%	10.3%	2.7%	5%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	1/16 (6%)	1/16 (6%)
FIRST INCIDENCE	613	580	729 (T)	689
STATISTICAL TESTS				
POLY 3	P=0.295N	P=0.339	P=0.508N	P=0.680N
POLY 1.5	P=0.295N	P=0.336	P=0.511N	P=0.677N
POLY 6	P=0.301N	P=0.343	P=0.509N	P=0.686N
COCH-ARM / FISHERS	P=0.299N	P=0.329	P=0.524N	P=0.676N
MAX-ISO-POLY-3	P=0.384N	P=0.204	P=0.287N	P=0.482N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Atrophy				
LESION RATES				
OVERALL (a)	2/48 (4%)	21/47 (45%)	34/45 (76%)	29/50 (58%)
POLY-3 RATE (b)	2/38.37	21/41.21	34/43.15	29/44.42
POLY-3 PERCENT (g)	5.2%	51%	78.8%	65.3%
TERMINAL (d)	0/17 (0%)	12/20 (60%)	13/16 (81%)	12/16 (75%)
FIRST INCIDENCE	611	439	535	516
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	0/48 (0%)	1/47 (2%)	2/45 (4%)	7/50 (14%)
POLY-3 RATE (b)	0/37.86	1/38.16	2/37.60	7/41.81
POLY-3 PERCENT (g)	0%	2.6%	5.3%	16.7%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	2/16 (13%)	2/16 (13%)
FIRST INCIDENCE	---	583	729 (T)	470
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.502	P=0.235	P=0.010**
POLY 1.5	P<0.001**	P=0.500	P=0.231	P=0.010**
POLY 6	P<0.001**	P=0.503	P=0.236	P=0.011*
COCH-ARM / FISHERS	P<0.001**	P=0.495	P=0.231	P=0.007**
MAX-ISO-POLY-3	P=0.002**	P=0.161	P=0.077	P=0.004**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium				
Hyperplasia Basal Cell				
LESION RATES				
OVERALL (a)	0/48 (0%)	1/47 (2%)	0/45 (0%)	13/50 (26%)
POLY-3 RATE (b)	0/37.86	1/38.45	0/37.60	13/42.03
POLY-3 PERCENT (g)	0%	2.6%	0%	30.9%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	5/16 (31%)
FIRST INCIDENCE	---	439	---	478
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.503	(e)	P<0.001**
POLY 1.5	P<0.001**	P=0.501	(e)	P<0.001**
POLY 6	P<0.001**	P=0.505	(e)	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.495	(e)	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.163	(e)	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Metaplasia Respiratory				
LESION RATES				
OVERALL (a)	12/48 (25%)	26/47 (55%)	37/45 (82%)	50/50 (100%)
POLY-3 RATE (b)	12/39.38	26/41.41	37/42.81	50/50.00
POLY-3 PERCENT (g)	30.5%	62.8%	86.4%	100%
TERMINAL (d)	4/17 (24%)	14/20 (70%)	15/16 (94%)	16/16 (100%)
FIRST INCIDENCE	598	439	548	470
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.002**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.002**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.002**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.002**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Necrosis				
LESION RATES				
OVERALL (a)	0/48 (0%)	1/47 (2%)	5/45 (11%)	5/50 (10%)
POLY-3 RATE (b)	0/37.86	1/37.84	5/38.08	5/41.02
POLY-3 PERCENT (g)	0%	2.6%	13.1%	12.2%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	---	683	667	478
STATISTICAL TESTS				
POLY 3	P=0.012*	P=0.500	P=0.030*	P=0.037*
POLY 1.5	P=0.012*	P=0.499	P=0.028*	P=0.036*
POLY 6	P=0.013*	P=0.501	P=0.031*	P=0.037*
COCH-ARM / FISHERS	P=0.012*	P=0.495	P=0.024*	P=0.031*
MAX-ISO-POLY-3	P=0.021*	P=0.159	P=0.010**	P=0.014*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	20/48 (42%)	35/47 (74%)	45/45 (100%)	50/50 (100%)
POLY-3 RATE (b)	20/41.97	35/43.56	45/45.00	50/50.00
POLY-3 PERCENT (g)	47.7%	80.4%	100%	100%
TERMINAL (d)	6/17 (35%)	17/20 (85%)	16/16 (100%)	16/16 (100%)
FIRST INCIDENCE	376	439	535	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Metaplasia				
LESION RATES				
OVERALL (a)	0/48 (0%)	1/47 (2%)	11/45 (24%)	35/50 (70%)
POLY-3 RATE (b)	0/37.86	1/37.88	11/39.23	35/46.47
POLY-3 PERCENT (g)	0%	2.6%	28%	75.3%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	3/16 (19%)	10/16 (63%)
FIRST INCIDENCE	---	674	611	478
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.500	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.499	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.501	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.495	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.160	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Necrosis				
LESION RATES				
OVERALL (a)	1/48 (2%)	4/47 (9%)	5/45 (11%)	13/50 (26%)
POLY-3 RATE (b)	1/37.88	4/37.84	5/37.90	13/41.33
POLY-3 PERCENT (g)	2.6%	10.6%	13.2%	31.5%
TERMINAL (d)	0/17 (0%)	3/20 (15%)	1/16 (6%)	5/16 (31%)
FIRST INCIDENCE	724	684	688	478
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.176	P=0.099	P<0.001**
POLY 1.5	P<0.001**	P=0.176	P=0.095	P<0.001**
POLY 6	P<0.001**	P=0.176	P=0.101	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.174	P=0.088	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.082	P=0.045*	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Turbinate Atrophy				
LESION RATES				
OVERALL (a)	1/48 (2%)	35/47 (74%)	35/45 (78%)	41/50 (82%)
POLY-3 RATE (b)	1/38.23	35/44.01	35/42.98	41/47.49
POLY-3 PERCENT (g)	2.6%	79.5%	81.4%	86.3%
TERMINAL (d)	0/17 (0%)	18/20 (90%)	14/16 (88%)	15/16 (94%)
FIRST INCIDENCE	626	413	535	470
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Turbinate Hyperostosis				
LESION RATES				
OVERALL (a)	2/48 (4%)	0/47 (0%)	0/45 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/38.26	0/37.67	0/37.60	0/39.94
POLY-3 PERCENT (g)	5.2%	0%	0%	0%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	616	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.180N	P=0.240N	P=0.240N	P=0.227N
POLY 1.5	P=0.181N	P=0.240N	P=0.243N	P=0.226N
POLY 6	P=0.178N	P=0.241N	P=0.239N	P=0.230N
COCH-ARM / FISHERS	P=0.184N	P=0.253N	P=0.264N	P=0.237N
MAX-ISO-POLY-3	P=0.037N*	P=0.077N	P=0.079N	P=0.073N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pancreas: Acinus Atrophy				
LESION RATES				
OVERALL (a)	23/50 (46%)	35/50 (70%)	28/49 (57%)	30/50 (60%)
POLY-3 RATE (b)	23/45.00	35/46.11	28/44.70	30/45.19
POLY-3 PERCENT (g)	51.1%	75.9%	62.6%	66.4%
TERMINAL (d)	6/17 (35%)	15/20 (75%)	9/16 (56%)	10/16 (63%)
FIRST INCIDENCE	376	439	582	516
STATISTICAL TESTS				
POLY 3	P=0.413	P=0.008**	P=0.179	P=0.094
POLY 1.5	P=0.421	P=0.009**	P=0.180	P=0.101
POLY 6	P=0.407	P=0.008**	P=0.181	P=0.089
COCH-ARM / FISHERS	P=0.435	P=0.013*	P=0.182	P=0.115
MAX-ISO-POLY-3	P=0.061	P=0.004**	P=0.128	P=0.062

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pituitary Gland Angiectasis				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/49 (0%)	1/49 (2%)
POLY-3 RATE (b)	1/39.85	0/40.08	0/39.91	1/38.94
POLY-3 PERCENT (g)	2.5%	0%	0%	2.6%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/15 (0%)	1/15 (7%)
FIRST INCIDENCE	626	---	---	729 (T)
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pituitary Gland: Pars Distalis Hyperplasia				
LESION RATES				
OVERALL (a)	18/50 (36%)	12/50 (24%)	14/49 (29%)	22/49 (45%)
POLY-3 RATE (b)	18/43.11	12/41.40	14/42.14	22/44.37
POLY-3 PERCENT (g)	41.8%	29%	33.2%	49.6%
TERMINAL (d)	7/17 (41%)	7/20 (35%)	5/15 (33%)	6/15 (40%)
FIRST INCIDENCE	376	540	548	491
STATISTICAL TESTS				
POLY 3	P=0.089	P=0.153N	P=0.273N	P=0.297
POLY 1.5	P=0.076	P=0.144N	P=0.273N	P=0.273
POLY 6	P=0.113	P=0.168N	P=0.284N	P=0.338
COCH-ARM / FISHERS	P=0.064	P=0.138N	P=0.283N	P=0.243
MAX-ISO-POLY-3	P=0.121	P=0.108N	P=0.205N	P=0.230

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Preputial Gland Ectasia				
LESION RATES				
OVERALL (a)	3/50 (6%)	1/50 (2%)	1/49 (2%)	0/48 (0%)
POLY-3 RATE (b)	3/40.02	1/40.08	1/40.23	0/38.07
POLY-3 PERCENT (g)	7.5%	2.5%	2.5%	0%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	0/16 (0%)	0/15 (0%)
FIRST INCIDENCE	668	729 (T)	678	---
STATISTICAL TESTS				
POLY 3	P=0.110N	P=0.304N	P=0.302N	P=0.127N
POLY 1.5	P=0.110N	P=0.303N	P=0.304N	P=0.126N
POLY 6	P=0.110N	P=0.309N	P=0.305N	P=0.130N
COCH-ARM / FISHERS	P=0.111N	P=0.309N	P=0.316N	P=0.129N
MAX-ISO-POLY-3	P=0.053N	P=0.152N	P=0.153N	P=0.043N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Preputial Gland Inflammation Chronic				
LESION RATES				
OVERALL (a)	5/50 (10%)	4/50 (8%)	3/49 (6%)	3/48 (6%)
POLY-3 RATE (b)	5/40.73	4/41.32	3/40.31	3/38.61
POLY-3 PERCENT (g)	12.3%	9.7%	7.4%	7.8%
TERMINAL (d)	3/17 (18%)	1/20 (5%)	2/16 (13%)	0/15 (0%)
FIRST INCIDENCE	383	439	654	628
STATISTICAL TESTS				
POLY 3	P=0.314N	P=0.491N	P=0.361N	P=0.385N
POLY 1.5	P=0.311N	P=0.493N	P=0.362N	P=0.382N
POLY 6	P=0.319N	P=0.489N	P=0.364N	P=0.389N
COCH-ARM / FISHERS	P=0.307N	P=0.500N	P=0.369N	P=0.381N
MAX-ISO-POLY-3	P=0.397N	P=0.354N	P=0.233N	P=0.257N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Prostate Hyperplasia				
LESION RATES				
OVERALL (a)	1/50 (2%)	6/50 (12%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	1/39.48	6/40.45	1/41.20	1/40.64
POLY-3 PERCENT (g)	2.5%	14.8%	2.4%	2.5%
TERMINAL (d)	1/17 (6%)	5/20 (25%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	624	652	491
STATISTICAL TESTS				
POLY 3	P=0.088N	P=0.058	P=0.752N	P=0.755N
POLY 1.5	P=0.092N	P=0.058	P=0.754N	P=0.756N
POLY 6	P=0.086N	P=0.057	P=0.751N	P=0.754N
COCH-ARM / FISHERS	P=0.101N	P=0.056	P=0.753N	P=0.753N
MAX-ISO-POLY-3	P=0.148N	P=0.025*	P=0.487N	P=0.491N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Prostate Inflammation Chronic				
LESION RATES				
OVERALL (a)	36/50 (72%)	39/50 (78%)	42/50 (84%)	28/50 (56%)
POLY-3 RATE (b)	36/46.30	39/48.41	42/48.49	28/46.46
POLY-3 PERCENT (g)	77.8%	80.6%	86.6%	60.3%
TERMINAL (d)	11/17 (65%)	14/20 (70%)	13/16 (81%)	6/16 (38%)
FIRST INCIDENCE	376	439	472	470
STATISTICAL TESTS				
POLY 3	P=0.017N*	P=0.465	P=0.179	P=0.046N*
POLY 1.5	P=0.018N*	P=0.400	P=0.151	P=0.054N
POLY 6	P=0.019N*	P=0.548	P=0.210	P=0.041N*
COCH-ARM / FISHERS	P=0.025N*	P=0.322	P=0.114	P=0.072N
MAX-ISO-POLY-3	P=0.009N**	P=0.364	P=0.119	P=0.028N*

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Skin				
Hyperplasia				
<hr/>				
LESION RATES				
OVERALL (a)	2/50 (4%)	2/50 (4%)	5/50 (10%)	1/50 (2%)
POLY-3 RATE (b)	2/39.70	2/40.77	5/41.17	1/39.94
POLY-3 PERCENT (g)	5%	4.9%	12.2%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	2/16 (13%)	1/16 (6%)
FIRST INCIDENCE	676	624	688	729 (T)
<hr/>				
STATISTICAL TESTS				
POLY 3	P=0.500N	P=0.685N	P=0.229	P=0.498N
POLY 1.5	P=0.496N	P=0.688N	P=0.226	P=0.497N
POLY 6	P=0.510N	P=0.683N	P=0.227	P=0.501N
COCH-ARM / FISHERS	P=0.496N	P=0.691N	P=0.218	P=0.500N
MAX-ISO-POLY-3	P=0.305N	P=0.488N	P=0.132	P=0.279N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Skin Inflammation				
LESION RATES				
OVERALL (a)	7/50 (14%)	5/50 (10%)	9/50 (18%)	4/50 (8%)
POLY-3 RATE (b)	7/40.51	5/40.41	9/42.85	4/40.54
POLY-3 PERCENT (g)	17.3%	12.4%	21%	9.9%
TERMINAL (d)	2/17 (12%)	3/20 (15%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	626	663	582	660
STATISTICAL TESTS				
POLY 3	P=0.355N	P=0.379N	P=0.439	P=0.257N
POLY 1.5	P=0.358N	P=0.376N	P=0.424	P=0.257N
POLY 6	P=0.353N	P=0.390N	P=0.451	P=0.261N
COCH-ARM / FISHERS	P=0.366N	P=0.380N	P=0.393	P=0.262N
MAX-ISO-POLY-3	P=0.293N	P=0.267N	P=0.336	P=0.164N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Fibrosis				
LESION RATES				
OVERALL (a)	8/50 (16%)	8/50 (16%)	7/50 (14%)	4/50 (8%)
POLY-3 RATE (b)	8/40.84	8/41.45	7/41.54	4/40.10
POLY-3 PERCENT (g)	19.6%	19.3%	16.9%	10%
TERMINAL (d)	3/17 (18%)	4/20 (20%)	3/16 (19%)	3/16 (19%)
FIRST INCIDENCE	583	562	611	688
STATISTICAL TESTS				
POLY 3	P=0.122N	P=0.597N	P=0.485N	P=0.181N
POLY 1.5	P=0.119N	P=0.598N	P=0.486N	P=0.177N
POLY 6	P=0.131N	P=0.603N	P=0.498N	P=0.191N
COCH-ARM / FISHERS	P=0.118N	P=0.607N	P=0.500N	P=0.178N
MAX-ISO-POLY-3	P=0.204N	P=0.486N	P=0.373N	P=0.112N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen				
Hematopoietic Cell Proliferation				
LESION RATES				
OVERALL (a)	3/50 (6%)	2/50 (4%)	0/50 (0%)	3/50 (6%)
POLY-3 RATE (b)	3/40.29	2/40.37	0/40.91	3/40.85
POLY-3 PERCENT (g)	7.5%	5%	0%	7.3%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	441	674	---	590
STATISTICAL TESTS				
POLY 3	P=0.583N	P=0.499N	P=0.115N	P=0.657N
POLY 1.5	P=0.584N	P=0.498N	P=0.116N	P=0.658N
POLY 6	P=0.584N	P=0.500N	P=0.116N	P=0.656N
COCH-ARM / FISHERS	P=0.587	P=0.500N	P=0.121N	P=0.661N
MAX-ISO-POLY-3	P=0.358N	P=0.322N	P=0.037N*	P=0.492N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Hemorrhage				
LESION RATES				
OVERALL (a)	1/50 (2%)	1/50 (2%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	1/40.12	1/40.16	0/40.91	0/39.94
POLY-3 PERCENT (g)	2.5%	2.5%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	519	708	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Necrosis				
LESION RATES				
OVERALL (a)	3/50 (6%)	2/50 (4%)	1/50 (2%)	6/50 (12%)
POLY-3 RATE (b)	3/39.95	2/40.58	1/40.95	6/41.74
POLY-3 PERCENT (g)	7.5%	4.9%	2.4%	14.4%
TERMINAL (d)	1/17 (6%)	1/20 (5%)	0/16 (0%)	1/16 (6%)
FIRST INCIDENCE	663	580	721	491
STATISTICAL TESTS				
POLY 3	P=0.109	P=0.493N	P=0.295N	P=0.262
POLY 1.5	P=0.107	P=0.494N	P=0.297N	P=0.255
POLY 6	P=0.110	P=0.495N	P=0.299N	P=0.268
COCH-ARM / FISHERS	P=0.105	P=0.500N	P=0.309N	P=0.243
MAX-ISO-POLY-3	P=0.090	P=0.318N	P=0.149N	P=0.166

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Edema				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/39.70	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	5%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	683	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.184N	P=0.234N	P=0.230N	P=0.235N
POLY 1.5	P=0.185N	P=0.235N	P=0.232N	P=0.235N
POLY 6	P=0.183N	P=0.236N	P=0.231N	P=0.237N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.036N*	P=0.075N	P=0.075N	P=0.075N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Hyperplasia				
LESION RATES				
OVERALL (a)	10/50 (20%)	14/50 (28%)	13/50 (26%)	11/50 (22%)
POLY-3 RATE (b)	10/41.41	14/43.58	13/43.61	11/43.38
POLY-3 PERCENT (g)	24.2%	32.1%	29.8%	25.4%
TERMINAL (d)	2/17 (12%)	2/20 (10%)	1/16 (6%)	2/16 (13%)
FIRST INCIDENCE	583	439	583	478
STATISTICAL TESTS				
POLY 3	P=0.428N	P=0.280	P=0.365	P=0.549
POLY 1.5	P=0.441N	P=0.267	P=0.349	P=0.532
POLY 6	P=0.417N	P=0.295	P=0.377	P=0.565
COCH-ARM / FISHERS	P=0.468N	P=0.241	P=0.318	P=0.500
MAX-ISO-POLY-3	P=0.497	P=0.211	P=0.282	P=0.448

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Inflammation Chronic				
LESION RATES				
OVERALL (a)	2/50 (4%)	4/50 (8%)	2/50 (4%)	1/50 (2%)
POLY-3 RATE (b)	2/39.83	4/41.47	2/41.29	1/40.33
POLY-3 PERCENT (g)	5%	9.7%	4.8%	2.5%
TERMINAL (d)	0/17 (0%)	1/20 (5%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	663	562	654	619
STATISTICAL TESTS				
POLY 3	P=0.180N	P=0.355	P=0.682N	P=0.496N
POLY 1.5	P=0.181N	P=0.349	P=0.685N	P=0.496N
POLY 6	P=0.182N	P=0.361	P=0.683N	P=0.497N
COCH-ARM / FISHERS	P=0.184N	P=0.339	P=0.691N	P=0.500N
MAX-ISO-POLY-3	P=0.286N	P=0.218	P=0.485N	P=0.277N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Mineralization				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/39.95	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	5%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	598	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.184N	P=0.236N	P=0.231N	P=0.237N
POLY 1.5	P=0.185N	P=0.236N	P=0.232N	P=0.236N
POLY 6	P=0.182N	P=0.238N	P=0.233N	P=0.239N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.036N*	P=0.075N	P=0.075N	P=0.075N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Ulcer				
LESION RATES				
OVERALL (a)	4/50 (8%)	4/50 (8%)	10/50 (20%)	2/50 (4%)
POLY-3 RATE (b)	4/40.06	4/41.15	10/43.00	2/40.94
POLY-3 PERCENT (g)	10%	9.7%	23.3%	4.9%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	2/16 (13%)	0/16 (0%)
FIRST INCIDENCE	663	610	583	478
STATISTICAL TESTS				
POLY 3	P=0.425N	P=0.630N	P=0.090	P=0.326N
POLY 1.5	P=0.426N	P=0.634N	P=0.084	P=0.329N
POLY 6	P=0.431N	P=0.627N	P=0.096	P=0.326N
COCH-ARM / FISHERS	P=0.437N	P=0.643N	P=0.074	P=0.339N
MAX-ISO-POLY-3	P=0.156N	P=0.484N	P=0.056	P=0.193N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Edema				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/49 (0%)	0/50 (0%)
POLY-3 RATE (b)	1/39.52	0/40.08	0/39.91	0/39.94
POLY-3 PERCENT (g)	2.5%	0%	0%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/15 (0%)	0/16 (0%)
FIRST INCIDENCE	719	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Erosion				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	2/49 (4%)	0/50 (0%)
POLY-3 RATE (b)	0/39.48	1/40.47	2/40.69	0/39.94
POLY-3 PERCENT (g)	0%	2.5%	4.9%	0%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/15 (0%)	0/16 (0%)
FIRST INCIDENCE	---	618	582	---
STATISTICAL TESTS				
POLY 3	P=0.573N	P=0.505	P=0.243	(e)
POLY 1.5	P=0.572N	P=0.503	P=0.240	(e)
POLY 6	P=0.575N	P=0.506	P=0.245	(e)
COCH-ARM / FISHERS	P=0.575N	P=0.500	P=0.242	(e)
MAX-ISO-POLY-3	P=0.346N	P=0.164	P=0.083	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Ulcer				
LESION RATES				
OVERALL (a)	1/50 (2%)	2/50 (4%)	2/49 (4%)	1/50 (2%)
POLY-3 RATE (b)	1/39.49	2/40.30	2/40.36	1/39.94
POLY-3 PERCENT (g)	2.5%	5%	5%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	0/15 (0%)	1/16 (6%)
FIRST INCIDENCE	727	683	618	729 (T)
STATISTICAL TESTS				
POLY 3	P=0.502N	P=0.507	P=0.508	P=0.759N
POLY 1.5	P=0.503N	P=0.505	P=0.503	P=0.759N
POLY 6	P=0.504N	P=0.509	P=0.509	P=0.760N
COCH-ARM / FISHERS	P=0.506N	P=0.500	P=0.492	P=0.753N
MAX-ISO-POLY-3	P=0.557N	P=0.288	P=0.289	P=0.496N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Testes				
Atrophy				
LESION RATES				
OVERALL (a)	35/50 (70%)	34/50 (68%)	36/50 (72%)	39/50 (78%)
POLY-3 RATE (b)	35/44.93	34/43.84	36/44.56	39/45.08
POLY-3 PERCENT (g)	77.9%	77.6%	80.8%	86.5%
TERMINAL (d)	15/17 (88%)	18/20 (90%)	15/16 (94%)	16/16 (100%)
FIRST INCIDENCE	376	593	583	516
STATISTICAL TESTS				
POLY 3	P=0.107	P=0.595N	P=0.466	P=0.183
POLY 1.5	P=0.127	P=0.548N	P=0.493	P=0.212
POLY 6	P=0.082	P=0.591	P=0.397	P=0.150
COCH-ARM / FISHERS	P=0.149	P=0.500N	P=0.500	P=0.247
MAX-ISO-POLY-3	P=0.178	P=0.482N	P=0.351	P=0.111

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Testes				
Infarct				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	2/50 (4%)	12/50 (24%)
POLY-3 RATE (b)	1/39.48	0/40.08	2/40.96	12/41.56
POLY-3 PERCENT (g)	2.5%	0%	4.9%	28.9%
TERMINAL (d)	1/17 (6%)	0/20 (0%)	0/16 (0%)	5/16 (31%)
FIRST INCIDENCE	729 (T)	---	721	561
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.497N	P=0.513	P<0.001**
POLY 1.5	P<0.001**	P=0.498N	P=0.509	P<0.001**
POLY 6	P<0.001**	P=0.497N	P=0.513	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500N	P=0.500	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.158N	P=0.294	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Testes: Arteriole Inflammation Chronic				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	2/39.48	0/40.08	1/41.20	0/39.94
POLY-3 PERCENT (g)	5.1%	0%	2.4%	0%
TERMINAL (d)	2/17 (12%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	---	652	---
STATISTICAL TESTS				
POLY 3	P=0.287N	P=0.233N	P=0.485N	P=0.234N
POLY 1.5	P=0.288N	P=0.234N	P=0.490N	P=0.235N
POLY 6	P=0.287N	P=0.233N	P=0.483N	P=0.234N
COCH-ARM / FISHERS	P=0.288N	P=0.247N	P=0.500N	P=0.247N
MAX-ISO-POLY-3	P=0.083N	P=0.075N	P=0.271N	P=0.075N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3

Testes: Interstitial Cell
Hyperplasia

LESION RATES

OVERALL (a)	7/50 (14%)	10/50 (20%)	12/50 (24%)	12/50 (24%)
POLY-3 RATE (b)	7/42.02	10/43.92	12/44.02	12/43.12
POLY-3 PERCENT (g)	16.7%	22.8%	27.3%	27.8%
TERMINAL (d)	1/17 (6%)	3/20 (15%)	1/16 (6%)	2/16 (13%)
FIRST INCIDENCE	514	413	582	491

STATISTICAL TESTS

POLY 3	P=0.156	P=0.329	P=0.175	P=0.161
POLY 1.5	P=0.157	P=0.320	P=0.168	P=0.160
POLY 6	P=0.154	P=0.337	P=0.183	P=0.161
COCH-ARM / FISHERS	P=0.155	P=0.298	P=0.154	P=0.154
MAX-ISO-POLY-3	P=0.192	P=0.243	P=0.121	P=0.108

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Thyroid Gland: C-Cell Hyperplasia				
LESION RATES				
OVERALL (a)	7/49 (14%)	8/50 (16%)	5/50 (10%)	9/49 (18%)
POLY-3 RATE (b)	7/39.41	8/41.37	5/42.44	9/40.28
POLY-3 PERCENT (g)	17.8%	19.3%	11.8%	22.3%
TERMINAL (d)	3/17 (18%)	3/20 (15%)	1/16 (6%)	3/16 (19%)
FIRST INCIDENCE	562	624	583	646
STATISTICAL TESTS				
POLY 3	P=0.430	P=0.542	P=0.325N	P=0.408
POLY 1.5	P=0.426	P=0.533	P=0.339N	P=0.404
POLY 6	P=0.433	P=0.553	P=0.314N	P=0.415
COCH-ARM / FISHERS	P=0.416	P=0.517	P=0.365N	P=0.393
MAX-ISO-POLY-3	P=0.394	P=0.427	P=0.229N	P=0.306

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Tooth Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/0 (0%)	2/2 (100%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	2/2.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	100%	0%	0%
TERMINAL (d)	0/0 (0%)	2/2 (100%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	729 (T)	---	---
STATISTICAL TESTS				
POLY 3	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Urinary Bladder Inflammation				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	2/50 (4%)	1/50 (2%)
POLY-3 RATE (b)	0/39.48	0/40.08	2/40.97	1/40.00
POLY-3 PERCENT (g)	0%	0%	4.9%	2.5%
TERMINAL (d)	0/17 (0%)	0/20 (0%)	1/16 (6%)	0/16 (0%)
FIRST INCIDENCE	---	---	716	715
STATISTICAL TESTS				
POLY 3	P=0.195	(e)	P=0.245	P=0.503
POLY 1.5	P=0.195	(e)	P=0.243	P=0.502
POLY 6	P=0.194	(e)	P=0.244	P=0.502
COCH-ARM / FISHERS	P=0.194	(e)	P=0.247	P=0.500
MAX-ISO-POLY-3	P=0.190	(e)	P=0.083	P=0.162

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Males			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Urinary Bladder Inflammation Granulomatous				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/39.48	0/40.08	0/40.91	0/39.94
POLY-3 PERCENT (g)	5.1%	0%	0%	0%
TERMINAL (d)	2/17 (12%)	0/20 (0%)	0/16 (0%)	0/16 (0%)
FIRST INCIDENCE	729 (T)	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.185N	P=0.233N	P=0.229N	P=0.234N
POLY 1.5	P=0.185N	P=0.234N	P=0.231N	P=0.235N
POLY 6	P=0.185N	P=0.233N	P=0.228N	P=0.234N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.036N*	P=0.075N	P=0.075N	P=0.075N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex				
Accessory Adrenal Cortical Nodule				
LESION RATES				
OVERALL (a)	5/50 (10%)	0/50 (0%)	3/50 (6%)	4/50 (8%)
POLY-3 RATE (b)	5/44.41	0/42.33	3/40.37	4/42.03
POLY-3 PERCENT (g)	11.3%	0%	7.4%	9.5%
TERMINAL (d)	4/35 (11%)	0/26 (0%)	2/24 (8%)	2/25 (8%)
FIRST INCIDENCE	646	---	661	478
STATISTICAL TESTS				
POLY 3	P=0.299	P=0.034N*	P=0.409N	P=0.534N
POLY 1.5	P=0.303	P=0.032N*	P=0.386N	P=0.514N
POLY 6	P=0.295	P=0.040N*	P=0.449N	P=0.566N
COCH-ARM / FISHERS	P=0.312	P=0.028N*	P=0.357N	P=0.500N
MAX-ISO-POLY-3	P=0.260N	P=0.013N*	P=0.284N	P=0.397N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex Degeneration				
LESION RATES				
OVERALL (a)	3/50 (6%)	1/50 (2%)	3/50 (6%)	3/50 (6%)
POLY-3 RATE (b)	3/44.88	1/42.33	3/40.46	3/40.70
POLY-3 PERCENT (g)	6.7%	2.4%	7.4%	7.4%
TERMINAL (d)	1/35 (3%)	1/26 (4%)	2/24 (8%)	3/25 (12%)
FIRST INCIDENCE	511	730 (T)	633	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.322	P=0.326N	P=0.614	P=0.617
POLY 1.5	P=0.337	P=0.314N	P=0.635	P=0.640
POLY 6	P=0.303	P=0.349N	P=0.579	P=0.583
COCH-ARM / FISHERS	P=0.357	P=0.309N	P=0.661N	P=0.661N
MAX-ISO-POLY-3	P=0.484	P=0.176N	P=0.449	P=0.452

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex Hyperplasia				
LESION RATES				
OVERALL (a)	25/50 (50%)	27/50 (54%)	28/50 (56%)	28/50 (56%)
POLY-3 RATE (b)	25/46.09	27/45.62	28/43.32	28/43.18
POLY-3 PERCENT (g)	54.2%	59.2%	64.6%	64.8%
TERMINAL (d)	19/35 (54%)	15/26 (58%)	18/24 (75%)	16/25 (64%)
FIRST INCIDENCE	530	598	523	590
STATISTICAL TESTS				
POLY 3	P=0.169	P=0.393	P=0.209	P=0.204
POLY 1.5	P=0.236	P=0.421	P=0.263	P=0.270
POLY 6	P=0.106	P=0.347	P=0.136	P=0.138
COCH-ARM / FISHERS	P=0.332	P=0.421	P=0.344	P=0.344
MAX-ISO-POLY-3	P=0.253	P=0.315	P=0.159	P=0.154

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Cortex Necrosis				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	1/50 (2%)	2/50 (4%)
POLY-3 RATE (b)	1/44.76	0/42.33	1/40.11	2/41.13
POLY-3 PERCENT (g)	2.2%	0%	2.5%	4.9%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	1/25 (4%)
FIRST INCIDENCE	511	---	730 (T)	603
STATISTICAL TESTS				
POLY 3	P=0.173	P=0.511N	P=0.736	P=0.471
POLY 1.5	P=0.179	P=0.504N	P=0.747	P=0.486
POLY 6	P=0.168	P=0.523N	P=0.718	P=0.450
COCH-ARM / FISHERS	P=0.185	P=0.500N	P=0.753N	P=0.500
MAX-ISO-POLY-3	P=0.230	P=0.172N	P=0.470	P=0.264

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Adrenal Medulla Hyperplasia				
LESION RATES				
OVERALL (a)	12/50 (24%)	27/50 (54%)	27/50 (54%)	10/50 (20%)
POLY-3 RATE (b)	12/44.77	27/44.77	27/45.85	10/43.74
POLY-3 PERCENT (g)	26.8%	60.3%	58.9%	22.9%
TERMINAL (d)	8/35 (23%)	16/26 (62%)	12/24 (50%)	3/25 (12%)
FIRST INCIDENCE	674	598	523	473
STATISTICAL TESTS				
POLY 3	P=0.046N*	P<0.001**	P<0.001**	P=0.427N
POLY 1.5	P=0.042N*	P<0.001**	P<0.001**	P=0.409N
POLY 6	P=0.055N	P<0.001**	P<0.001**	P=0.459N
COCH-ARM / FISHERS	P=0.053N	P=0.002**	P=0.002**	P=0.405N
MAX-ISO-POLY-3	P=0.008N**	P<0.001**	P<0.001**	P=0.335N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Bone: Femur Hyperostosis				
LESION RATES				
OVERALL (a)	4/50 (8%)	2/50 (4%)	5/50 (10%)	2/50 (4%)
POLY-3 RATE (b)	4/44.10	2/42.33	5/40.96	2/41.04
POLY-3 PERCENT (g)	9.1%	4.7%	12.2%	4.9%
TERMINAL (d)	4/35 (11%)	2/26 (8%)	2/24 (8%)	1/25 (4%)
FIRST INCIDENCE	730 (T)	730 (T)	628	634
STATISTICAL TESTS				
POLY 3	P=0.491N	P=0.356N	P=0.454	P=0.370N
POLY 1.5	P=0.476N	P=0.343N	P=0.474	P=0.353N
POLY 6	P=0.508N	P=0.381N	P=0.422	P=0.396N
COCH-ARM / FISHERS	P=0.456N	P=0.339N	P=0.500	P=0.339N
MAX-ISO-POLY-3	P=0.395N	P=0.219N	P=0.326	P=0.234N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Bone: Maxilla				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	2/44.10	0/42.33	0/40.11	1/41.00
POLY-3 PERCENT (g)	4.5%	0%	0%	2.4%
TERMINAL (d)	2/35 (6%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	730 (T)	---	---	646
STATISTICAL TESTS				
POLY 3	P=0.565N	P=0.246N	P=0.259N	P=0.525N
POLY 1.5	P=0.565N	P=0.240N	P=0.249N	P=0.512N
POLY 6	P=0.563N	P=0.258N	P=0.275N	P=0.544N
COCH-ARM / FISHERS	P=0.560N	P=0.247N	P=0.247N	P=0.500N
MAX-ISO-POLY-3	P=0.174N	P=0.085N	P=0.096N	P=0.308N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Compression				
LESION RATES				
OVERALL (a)	16/50 (32%)	14/50 (28%)	14/50 (28%)	17/50 (34%)
POLY-3 RATE (b)	16/46.12	14/44.12	14/43.49	17/43.45
POLY-3 PERCENT (g)	34.7%	31.7%	32.2%	39.1%
TERMINAL (d)	9/35 (26%)	7/26 (27%)	4/24 (17%)	7/25 (28%)
FIRST INCIDENCE	530	593	291	506
STATISTICAL TESTS				
POLY 3	P=0.312	P=0.470N	P=0.489N	P=0.415
POLY 1.5	P=0.341	P=0.433N	P=0.452N	P=0.460
POLY 6	P=0.281	P=0.534N	P=0.554N	P=0.359
COCH-ARM / FISHERS	P=0.376	P=0.414N	P=0.414N	P=0.500
MAX-ISO-POLY-3	P=0.441	P=0.383N	P=0.401N	P=0.335

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Edema				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Brain Hemorrhage				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)	0/50 (0%)	3/50 (6%)
POLY-3 RATE (b)	0/44.10	2/42.92	0/40.11	3/41.89
POLY-3 PERCENT (g)	0%	4.7%	0%	7.2%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	593	---	473
STATISTICAL TESTS				
POLY 3	P=0.146	P=0.231	(e)	P=0.109
POLY 1.5	P=0.153	P=0.236	(e)	P=0.115
POLY 6	P=0.135	P=0.222	(e)	P=0.102
COCH-ARM / FISHERS	P=0.161	P=0.247	(e)	P=0.121
MAX-ISO-POLY-3	P=0.044*	P=0.076	(e)	P=0.038*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Clitoral Gland Hyperplasia				
LESION RATES				
OVERALL (a)	2/49 (4%)	1/47 (2%)	1/47 (2%)	0/46 (0%)
POLY-3 RATE (b)	2/44.28	1/39.83	1/37.25	0/37.17
POLY-3 PERCENT (g)	4.5%	2.5%	2.7%	0%
TERMINAL (d)	1/35 (3%)	0/23 (0%)	1/22 (5%)	0/22 (0%)
FIRST INCIDENCE	674	578	730 (T)	---
STATISTICAL TESTS				
POLY 3	P=0.203N	P=0.537N	P=0.560N	P=0.278N
POLY 1.5	P=0.197N	P=0.525N	P=0.542N	P=0.265N
POLY 6	P=0.213N	P=0.557N	P=0.587N	P=0.295N
COCH-ARM / FISHERS	P=0.186N	P=0.516N	P=0.516N	P=0.263N
MAX-ISO-POLY-3	P=0.188N	P=0.319N	P=0.343N	P=0.111N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Clitoral Gland Inflammation				
LESION RATES				
OVERALL (a)	2/49 (4%)	0/47 (0%)	0/47 (0%)	1/46 (2%)
POLY-3 RATE (b)	2/44.28	0/39.33	0/37.25	1/37.38
POLY-3 PERCENT (g)	4.5%	0%	0%	2.7%
TERMINAL (d)	1/35 (3%)	0/23 (0%)	0/22 (0%)	0/22 (0%)
FIRST INCIDENCE	674	---	---	674
STATISTICAL TESTS				
POLY 3	P=0.575N	P=0.264N	P=0.277N	P=0.559N
POLY 1.5	P=0.576N	P=0.255N	P=0.265N	P=0.542N
POLY 6	P=0.574N	P=0.280N	P=0.297N	P=0.580N
COCH-ARM / FISHERS	P=0.573N	P=0.258N	P=0.258N	P=0.524N
MAX-ISO-POLY-3	P=0.214N	P=0.099N	P=0.111N	P=0.341N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Clitoral Gland Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/49 (0%)	4/47 (9%)	0/47 (0%)	2/46 (4%)
POLY-3 RATE (b)	0/44.07	4/39.51	0/37.25	2/37.79
POLY-3 PERCENT (g)	0%	10.1%	0%	5.3%
TERMINAL (d)	0/35 (0%)	3/23 (13%)	0/22 (0%)	1/22 (5%)
FIRST INCIDENCE	---	684	---	530
STATISTICAL TESTS				
POLY 3	P=0.590N	P=0.047*	(e)	P=0.204
POLY 1.5	P=0.569N	P=0.051	(e)	P=0.213
POLY 6	P=0.579	P=0.041*	(e)	P=0.193
COCH-ARM / FISHERS	P=0.543N	P=0.054	(e)	P=0.232
MAX-ISO-POLY-3	P=0.189	P=0.018*	(e)	P=0.072

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

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First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Ear				
Inflammation Chronic				
<hr/>				
LESION RATES				
OVERALL (a)	4/4 (100%)	4/4 (100%)	0/0 (0%)	3/3 (100%)
POLY-3 RATE (b)	4/4.00	4/4.00	0/0.00	3/3.00
POLY-3 PERCENT (g)	100%	100%	0%	100%
TERMINAL (d)	3/3 (100%)	3/3 (100%)	0/0 (0%)	3/3 (100%)
FIRST INCIDENCE	674	684	---	730 (T)
<hr/>				
STATISTICAL TESTS				
POLY 3	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Eye Cataract				
LESION RATES				
OVERALL (a)	8/50 (16%)	10/50 (20%)	11/49 (22%)	3/50 (6%)
POLY-3 RATE (b)	8/45.31	10/44.09	11/41.39	3/40.70
POLY-3 PERCENT (g)	17.7%	22.7%	26.6%	7.4%
TERMINAL (d)	4/35 (11%)	6/26 (23%)	6/24 (25%)	3/25 (12%)
FIRST INCIDENCE	511	578	587	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.107N	P=0.371	P=0.228	P=0.134N
POLY 1.5	P=0.085N	P=0.391	P=0.253	P=0.115N
POLY 6	P=0.143N	P=0.333	P=0.192	P=0.166N
COCH-ARM / FISHERS	P=0.067N	P=0.398	P=0.288	P=0.100N
MAX-ISO-POLY-3	P=0.077N	P=0.280	P=0.167	P=0.087N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Eye				
Metaplasia Osseous				
LESION RATES				
OVERALL (a)	24/50 (48%)	19/50 (38%)	26/49 (53%)	13/50 (26%)
POLY-3 RATE (b)	24/45.09	19/43.93	26/41.53	13/41.03
POLY-3 PERCENT (g)	53.2%	43.3%	62.6%	31.7%
TERMINAL (d)	19/35 (54%)	13/26 (50%)	19/24 (79%)	11/25 (44%)
FIRST INCIDENCE	654	578	590	646
STATISTICAL TESTS				
POLY 3	P=0.103N	P=0.228N	P=0.246	P=0.031N*
POLY 1.5	P=0.075N	P=0.205N	P=0.303	P=0.022N*
POLY 6	P=0.159N	P=0.286N	P=0.163	P=0.055N
COCH-ARM / FISHERS	P=0.057N	P=0.210N	P=0.381	P=0.019N*
MAX-ISO-POLY-3	P=0.038N*	P=0.172N	P=0.189	P=0.023N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Harderian Gland Inflammation Chronic				
LESION RATES				
OVERALL (a)	3/50 (6%)	0/50 (0%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	3/45.04	0/42.33	0/40.11	2/41.70
POLY-3 PERCENT (g)	6.7%	0%	0%	4.8%
TERMINAL (d)	1/35 (3%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	511	---	---	489
STATISTICAL TESTS				
POLY 3	P=0.563	P=0.130N	P=0.141N	P=0.535N
POLY 1.5	P=0.564	P=0.123N	P=0.131N	P=0.517N
POLY 6	P=0.564	P=0.143N	P=0.158N	P=0.561N
COCH-ARM / FISHERS	P=0.569	P=0.121N	P=0.121N	P=0.500N
MAX-ISO-POLY-3	P=0.146N	P=0.047N*	P=0.057N	P=0.360N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart				
Cardiomyopathy				
LESION RATES				
OVERALL (a)	41/50 (82%)	34/50 (68%)	42/50 (84%)	35/50 (70%)
POLY-3 RATE (b)	41/47.16	34/44.83	42/47.96	35/44.41
POLY-3 PERCENT (g)	86.9%	75.8%	87.6%	78.8%
TERMINAL (d)	33/35 (94%)	24/26 (92%)	22/24 (92%)	22/25 (88%)
FIRST INCIDENCE	511	578	117	471
STATISTICAL TESTS				
POLY 3	P=0.453N	P=0.112N	P=0.590	P=0.205N
POLY 1.5	P=0.402N	P=0.080N	P=0.590	P=0.141N
POLY 6	P=0.501N	P=0.208N	P=0.563	P=0.320N
COCH-ARM / FISHERS	P=0.365N	P=0.083N	P=0.500	P=0.121N
MAX-ISO-POLY-3	P=0.229N	P=0.070N	P=0.459	P=0.136N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart Inflammation				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Heart Thrombosis				
LESION RATES				
OVERALL (a)	2/50 (4%)	4/50 (8%)	2/50 (4%)	0/50 (0%)
POLY-3 RATE (b)	2/44.35	4/42.96	2/40.57	0/40.70
POLY-3 PERCENT (g)	4.5%	9.3%	4.9%	0%
TERMINAL (d)	1/35 (3%)	1/26 (4%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	663	641	618	---
STATISTICAL TESTS				
POLY 3	P=0.080N	P=0.322	P=0.662	P=0.257N
POLY 1.5	P=0.073N	P=0.333	P=0.676	P=0.246N
POLY 6	P=0.091N	P=0.302	P=0.637	P=0.272N
COCH-ARM / FISHERS	P=0.067N	P=0.339	P=0.691N	P=0.247N
MAX-ISO-POLY-3	P=0.126N	P=0.192	P=0.464	P=0.094N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Intestine Large, Colon: Mucosa Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)	0/49 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	2/43.51	0/39.28	0/40.70
POLY-3 PERCENT (g)	0%	4.6%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	422	---	---
STATISTICAL TESTS				
POLY 3	P=0.223N	P=0.234	(e)	(e)
POLY 1.5	P=0.216N	P=0.238	(e)	(e)
POLY 6	P=0.237N	P=0.225	(e)	(e)
COCH-ARM / FISHERS	P=0.212N	P=0.247	(e)	(e)
MAX-ISO-POLY-3	P=0.289N	P=0.076	(e)	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Intestine Small, Duodenum Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/48 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/43.07	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/34 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Islets, Pancreatic Hyperplasia				
LESION RATES				
OVERALL (a)	1/50 (2%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/44.76	1/42.48	0/40.11	1/40.70
POLY-3 PERCENT (g)	2.2%	2.4%	0%	2.5%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	511	691	---	730 (T)
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney				
Accumulation, Hyaline Droplet				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Cyst				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.10	1/42.33	0/40.11	1/40.91
POLY-3 PERCENT (g)	0%	2.4%	0%	2.4%
TERMINAL (d)	0/35 (0%)	1/26 (4%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	730 (T)	---	674
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Infarct				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	0/44.10	1/42.48	0/40.11	2/40.82
POLY-3 PERCENT (g)	0%	2.4%	0%	4.9%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	691	---	712
STATISTICAL TESTS				
POLY 3	P=0.170	P=0.493	(e)	P=0.220
POLY 1.5	P=0.177	P=0.498	(e)	P=0.229
POLY 6	P=0.160	P=0.483	(e)	P=0.208
COCH-ARM / FISHERS	P=0.185	P=0.500	(e)	P=0.247
MAX-ISO-POLY-3	P=0.083	P=0.158	(e)	P=0.075

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney Nephropathy				
LESION RATES				
OVERALL (a)	48/50 (96%)	48/50 (96%)	47/50 (94%)	48/50 (96%)
POLY-3 RATE (b)	48/48.11	48/48.88	47/48.50	48/48.80
POLY-3 PERCENT (g)	99.8%	98.2%	96.9%	98.4%
TERMINAL (d)	35/35 (100%)	26/26 (100%)	24/24 (100%)	25/25 (100%)
FIRST INCIDENCE	511	422	291	471
STATISTICAL TESTS				
POLY 3	P=0.459N	P=0.646N	P=0.362N	P=0.706N
POLY 1.5	P=0.458N	P=0.564N	P=0.403N	P=0.593N
POLY 6	P=0.552N	P=0.976N	P=0.432N	P=0.994N
COCH-ARM / FISHERS	P=0.544N	P=0.691N	P=0.500N	P=0.691N
MAX-ISO-POLY-3	P=0.246N	P=0.122N	P=0.101N	P=0.128N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Kidney: Renal Tubule Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	2/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	4.7%	0%	0%
TERMINAL (d)	0/35 (0%)	2/26 (8%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	730 (T)	---	---
STATISTICAL TESTS				
POLY 3	P=0.226N	P=0.228	(e)	(e)
POLY 1.5	P=0.217N	P=0.234	(e)	(e)
POLY 6	P=0.242N	P=0.216	(e)	(e)
COCH-ARM / FISHERS	P=0.211N	P=0.247	(e)	(e)
MAX-ISO-POLY-3	P=0.282N	P=0.076	(e)	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx				
Foreign Body				
LESION RATES				
OVERALL (a)	1/50 (2%)	3/50 (6%)	6/50 (12%)	2/50 (4%)
POLY-3 RATE (b)	1/44.38	3/42.46	6/41.61	2/40.87
POLY-3 PERCENT (g)	2.3%	7.1%	14.4%	4.9%
TERMINAL (d)	0/35 (0%)	2/26 (8%)	2/24 (8%)	0/25 (0%)
FIRST INCIDENCE	654	697	589	691
STATISTICAL TESTS				
POLY 3	P=0.372	P=0.289	P=0.045*	P=0.471
POLY 1.5	P=0.399	P=0.300	P=0.050*	P=0.486
POLY 6	P=0.337	P=0.270	P=0.039*	P=0.450
COCH-ARM / FISHERS	P=0.428	P=0.309	P=0.056	P=0.500
MAX-ISO-POLY-3	P=0.162	P=0.148	P=0.022*	P=0.265

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx Inflammation				
LESION RATES				
OVERALL (a)	22/50 (44%)	23/50 (46%)	14/50 (28%)	13/50 (26%)
POLY-3 RATE (b)	22/46.38	23/45.23	14/42.20	13/42.09
POLY-3 PERCENT (g)	47.4%	50.9%	33.2%	30.9%
TERMINAL (d)	14/35 (40%)	13/26 (50%)	7/24 (29%)	8/25 (32%)
FIRST INCIDENCE	550	516	589	489
STATISTICAL TESTS				
POLY 3	P=0.017N*	P=0.452	P=0.122N	P=0.081N
POLY 1.5	P=0.011N*	P=0.492	P=0.096N	P=0.058N
POLY 6	P=0.029N*	P=0.373	P=0.177N	P=0.132N
COCH-ARM / FISHERS	P=0.009N**	P=0.500	P=0.072N	P=0.046N*
MAX-ISO-POLY-3	P=0.028N*	P=0.371	P=0.093N	P=0.061N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx Metaplasia				
LESION RATES				
OVERALL (a)	4/50 (8%)	4/50 (8%)	3/50 (6%)	5/50 (10%)
POLY-3 RATE (b)	4/44.38	4/43.79	3/41.22	5/40.87
POLY-3 PERCENT (g)	9%	9.1%	7.3%	12.2%
TERMINAL (d)	3/35 (9%)	0/26 (0%)	0/24 (0%)	3/25 (12%)
FIRST INCIDENCE	654	516	589	691
STATISTICAL TESTS				
POLY 3	P=0.384	P=0.636	P=0.540N	P=0.448
POLY 1.5	P=0.408	P=0.642N	P=0.523N	P=0.475
POLY 6	P=0.354	P=0.617	P=0.569N	P=0.410
COCH-ARM / FISHERS	P=0.437	P=0.643N	P=0.500N	P=0.500
MAX-ISO-POLY-3	P=0.463	P=0.491	P=0.388N	P=0.322

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Larynx: Respiratory Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	4/50 (8%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.10	4/42.83	0/40.11	1/40.70
POLY-3 PERCENT (g)	0%	9.3%	0%	2.5%
TERMINAL (d)	0/35 (0%)	2/26 (8%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	---	624	---	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.293N	P=0.056	(e)	P=0.484
POLY 1.5	P=0.278N	P=0.059	(e)	P=0.492
POLY 6	P=0.318N	P=0.051	(e)	P=0.472
COCH-ARM / FISHERS	P=0.269N	P=0.059	(e)	P=0.500
MAX-ISO-POLY-3	P=0.237	P=0.019*	(e)	P=0.158

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver Atrophy				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	1/44.31	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	2.3%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	674	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Basophilic Focus				
LESION RATES				
OVERALL (a)	16/50 (32%)	20/50 (40%)	22/50 (44%)	33/50 (66%)
POLY-3 RATE (b)	16/44.62	20/43.36	22/41.77	33/45.64
POLY-3 PERCENT (g)	35.9%	46.1%	52.7%	72.3%
TERMINAL (d)	14/35 (40%)	17/26 (65%)	16/24 (67%)	19/25 (76%)
FIRST INCIDENCE	646	578	587	471
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.219	P=0.081	P<0.001**
POLY 1.5	P<0.001**	P=0.252	P=0.108	P<0.001**
POLY 6	P<0.001**	P=0.161	P=0.049*	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.266	P=0.151	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.163	P=0.058	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Clear Cell Focus				
LESION RATES				
OVERALL (a)	12/50 (24%)	6/50 (12%)	3/50 (6%)	6/50 (12%)
POLY-3 RATE (b)	12/44.72	6/42.70	3/40.11	6/41.25
POLY-3 PERCENT (g)	26.8%	14.1%	7.5%	14.6%
TERMINAL (d)	11/35 (31%)	5/26 (19%)	3/24 (13%)	4/25 (16%)
FIRST INCIDENCE	530	624	730 (T)	641
STATISTICAL TESTS				
POLY 3	P=0.131N	P=0.110N	P=0.018N*	P=0.127N
POLY 1.5	P=0.123N	P=0.099N	P=0.014N*	P=0.109N
POLY 6	P=0.143N	P=0.133N	P=0.026N*	P=0.154N
COCH-ARM / FISHERS	P=0.113N	P=0.096N	P=0.011N*	P=0.096N
MAX-ISO-POLY-3	P=0.042N*	P=0.072N	P=0.012N*	P=0.087N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
<hr/>				
Liver Degeneration Cystic				
<hr/>				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
<hr/>				
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Eosinophilic Focus				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	2/50 (4%)	2/50 (4%)
POLY-3 RATE (b)	0/44.10	1/42.56	2/40.51	2/41.82
POLY-3 PERCENT (g)	0%	2.4%	4.9%	4.8%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	---	670	618	473
STATISTICAL TESTS				
POLY 3	P=0.155	P=0.493	P=0.218	P=0.225
POLY 1.5	P=0.162	P=0.498	P=0.227	P=0.232
POLY 6	P=0.146	P=0.483	P=0.206	P=0.215
COCH-ARM / FISHERS	P=0.168	P=0.500	P=0.247	P=0.247
MAX-ISO-POLY-3	P=0.161	P=0.158	P=0.075	P=0.076

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Fatty Change				
LESION RATES				
OVERALL (a)	13/50 (26%)	9/50 (18%)	6/50 (12%)	3/50 (6%)
POLY-3 RATE (b)	13/47.04	9/43.24	6/41.99	3/41.25
POLY-3 PERCENT (g)	27.6%	20.8%	14.3%	7.3%
TERMINAL (d)	7/35 (20%)	4/26 (15%)	2/24 (8%)	1/25 (4%)
FIRST INCIDENCE	316	598	291	641
STATISTICAL TESTS				
POLY 3	P=0.008N**	P=0.305N	P=0.100N	P=0.012N*
POLY 1.5	P=0.006N**	P=0.269N	P=0.081N	P=0.009N**
POLY 6	P=0.010N**	P=0.364N	P=0.133N	P=0.018N*
COCH-ARM / FISHERS	P=0.005N**	P=0.235N	P=0.062N	P=0.006N**
MAX-ISO-POLY-3	P=0.014N*	P=0.235N	P=0.071N	P=0.008N**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Hepatodiaphragmatic Nodule				
LESION RATES				
OVERALL (a)	6/50 (12%)	11/50 (22%)	12/50 (24%)	15/50 (30%)
POLY-3 RATE (b)	6/44.31	11/43.96	12/43.07	15/43.51
POLY-3 PERCENT (g)	13.5%	25%	27.9%	34.5%
TERMINAL (d)	5/35 (14%)	6/26 (23%)	5/24 (21%)	7/25 (28%)
FIRST INCIDENCE	674	593	117	471
STATISTICAL TESTS				
POLY 3	P=0.029*	P=0.134	P=0.080	P=0.018*
POLY 1.5	P=0.034*	P=0.143	P=0.089	P=0.021*
POLY 6	P=0.022*	P=0.118	P=0.065	P=0.013*
COCH-ARM / FISHERS	P=0.038*	P=0.143	P=0.096	P=0.024*
MAX-ISO-POLY-3	P=0.019*	P=0.085	P=0.049*	P=0.010**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	1/44.10	0/42.33	0/40.11	2/40.70
POLY-3 PERCENT (g)	2.3%	0%	0%	4.9%
TERMINAL (d)	1/35 (3%)	0/26 (0%)	0/24 (0%)	2/25 (8%)
FIRST INCIDENCE	730 (T)	---	---	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.185	P=0.508N	P=0.519N	P=0.472
POLY 1.5	P=0.188	P=0.503N	P=0.510N	P=0.487
POLY 6	P=0.181	P=0.519N	P=0.533N	P=0.451
COCH-ARM / FISHERS	P=0.194	P=0.500N	P=0.500N	P=0.500
MAX-ISO-POLY-3	P=0.139	P=0.169N	P=0.181N	P=0.265

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Mixed Cell Focus				
LESION RATES				
OVERALL (a)	1/50 (2%)	4/50 (8%)	2/50 (4%)	0/50 (0%)
POLY-3 RATE (b)	1/44.10	4/42.33	2/40.20	0/40.70
POLY-3 PERCENT (g)	2.3%	9.5%	5%	0%
TERMINAL (d)	1/35 (3%)	4/26 (15%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	730 (T)	730 (T)	709	---
STATISTICAL TESTS				
POLY 3	P=0.125N	P=0.166	P=0.468	P=0.516N
POLY 1.5	P=0.115N	P=0.175	P=0.482	P=0.508N
POLY 6	P=0.141N	P=0.150	P=0.444	P=0.528N
COCH-ARM / FISHERS	P=0.107N	P=0.181	P=0.500	P=0.500N
MAX-ISO-POLY-3	P=0.164N	P=0.080	P=0.263	P=0.178N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver				
Necrosis				
LESION RATES				
OVERALL (a)	6/50 (12%)	3/50 (6%)	2/50 (4%)	2/50 (4%)
POLY-3 RATE (b)	6/46.15	3/42.90	2/40.76	2/41.17
POLY-3 PERCENT (g)	13%	7%	4.9%	4.9%
TERMINAL (d)	2/35 (6%)	0/26 (0%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	316	641	587	590
STATISTICAL TESTS				
POLY 3	P=0.147N	P=0.279N	P=0.176N	P=0.173N
POLY 1.5	P=0.138N	P=0.260N	P=0.158N	P=0.154N
POLY 6	P=0.159N	P=0.311N	P=0.207N	P=0.201N
COCH-ARM / FISHERS	P=0.126N	P=0.243N	P=0.134N	P=0.134N
MAX-ISO-POLY-3	P=0.143N	P=0.183N	P=0.109N	P=0.106N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Liver Regeneration				
LESION RATES				
OVERALL (a)	2/50 (4%)	3/50 (6%)	5/50 (10%)	4/50 (8%)
POLY-3 RATE (b)	2/44.67	3/43.14	5/41.38	4/43.24
POLY-3 PERCENT (g)	4.5%	7%	12.1%	9.3%
TERMINAL (d)	1/35 (3%)	1/26 (4%)	2/24 (8%)	0/25 (0%)
FIRST INCIDENCE	550	578	590	473
STATISTICAL TESTS				
POLY 3	P=0.238	P=0.484	P=0.185	P=0.322
POLY 1.5	P=0.247	P=0.495	P=0.199	P=0.333
POLY 6	P=0.224	P=0.463	P=0.166	P=0.304
COCH-ARM / FISHERS	P=0.252	P=0.500	P=0.218	P=0.339
MAX-ISO-POLY-3	P=0.245	P=0.313	P=0.106	P=0.192

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	20/50 (40%)	50/50 (100%)	50/50 (100%)	50/50 (100%)
POLY-3 RATE (b)	20/44.75	50/50.00	50/50.00	50/50.00
POLY-3 PERCENT (g)	44.7%	100%	100%	100%
TERMINAL (d)	18/35 (51%)	26/26 (100%)	24/24 (100%)	25/25 (100%)
FIRST INCIDENCE	530	422	117	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung				
Metaplasia Osseous				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
<hr/>				
Lung Thrombosis				
<hr/>				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
<hr/>				
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolar Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	9/50 (18%)	49/50 (98%)	50/50 (100%)	49/50 (98%)
POLY-3 RATE (b)	9/44.26	49/49.59	50/50.00	49/50.00
POLY-3 PERCENT (g)	20.3%	98.8%	100%	98%
TERMINAL (d)	7/35 (20%)	26/26 (100%)	24/24 (100%)	24/25 (96%)
FIRST INCIDENCE	698	422	117	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolar Epithelium Metaplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	2/42.70	1/40.11	0/40.70
POLY-3 PERCENT (g)	0%	4.7%	2.5%	0%
TERMINAL (d)	0/35 (0%)	1/26 (4%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	---	624	730 (T)	---
STATISTICAL TESTS				
POLY 3	P=0.337N	P=0.230	P=0.481	(e)
POLY 1.5	P=0.324N	P=0.235	P=0.490	(e)
POLY 6	P=0.358N	P=0.220	P=0.467	(e)
COCH-ARM / FISHERS	P=0.312N	P=0.247	P=0.500	(e)
MAX-ISO-POLY-3	P=0.343	P=0.076	P=0.158	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Alveolus Proteinosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	50/50 (100%)	50/50 (100%)	50/50 (100%)
POLY-3 RATE (b)	0/44.10	50/50.00	50/50.00	50/50.00
POLY-3 PERCENT (g)	0%	100%	100%	100%
TERMINAL (d)	0/35 (0%)	26/26 (100%)	24/24 (100%)	25/25 (100%)
FIRST INCIDENCE	---	422	117	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lung: Bronchiole, Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	47/50 (94%)	46/50 (92%)	48/50 (96%)
POLY-3 RATE (b)	0/44.10	47/49.12	46/47.90	48/49.43
POLY-3 PERCENT (g)	0%	95.7%	96%	97.1%
TERMINAL (d)	0/35 (0%)	25/26 (96%)	24/24 (100%)	25/25 (100%)
FIRST INCIDENCE	---	422	291	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lymph Node, Mandibular Ectasia				
LESION RATES				
OVERALL (a)	0/48 (0%)	0/48 (0%)	1/47 (2%)	0/47 (0%)
POLY-3 RATE (b)	0/42.44	0/40.92	1/38.25	0/38.32
POLY-3 PERCENT (g)	0%	0%	2.6%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/23 (0%)	0/23 (0%)
FIRST INCIDENCE	---	---	677	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
Time Report Requested: 14:48:12
First Dose M/F: 05/08/06 / 05/08/06
Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Lymph Node, Mandibular Hyperplasia				
LESION RATES				
OVERALL (a)	0/48 (0%)	0/48 (0%)	0/47 (0%)	0/47 (0%)
POLY-3 RATE (b)	0/42.44	0/40.92	0/38.05	0/38.32
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/23 (0%)	0/23 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
<hr/>				
Lymph Node: Renal Ectasia				
<hr/>				
LESION RATES				
OVERALL (a)	1/4 (25%)	0/3 (0%)	1/7 (14%)	0/5 (0%)
POLY-3 RATE (b)	1/1.93	0/2.43	1/3.85	0/1.96
POLY-3 PERCENT (g)	51.7%	0%	26%	0%
TERMINAL (d)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	646	---	541	---
<hr/>				
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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Date Report Requested: 01/18/2012
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mammary Gland				
Galactocele				
LESION RATES				
OVERALL (a)	1/50 (2%)	1/50 (2%)	4/50 (8%)	1/50 (2%)
POLY-3 RATE (b)	1/44.76	1/42.74	4/40.93	1/40.70
POLY-3 PERCENT (g)	2.2%	2.3%	9.8%	2.5%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	2/24 (8%)	1/25 (4%)
FIRST INCIDENCE	511	611	591	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.411	P=0.750	P=0.152	P=0.739
POLY 1.5	P=0.434	P=0.757	P=0.163	P=0.750
POLY 6	P=0.383	P=0.739	P=0.136	P=0.724
COCH-ARM / FISHERS	P=0.460	P=0.753N	P=0.181	P=0.753N
MAX-ISO-POLY-3	P=0.319	P=0.486	P=0.077	P=0.473

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mammary Gland Hyperplasia				
LESION RATES				
OVERALL (a)	3/50 (6%)	2/50 (4%)	1/50 (2%)	5/50 (10%)
POLY-3 RATE (b)	3/44.10	2/42.64	1/40.37	5/42.70
POLY-3 PERCENT (g)	6.8%	4.7%	2.5%	11.7%
TERMINAL (d)	3/35 (9%)	1/26 (4%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	730 (T)	646	661	489
STATISTICAL TESTS				
POLY 3	P=0.189	P=0.515N	P=0.337N	P=0.338
POLY 1.5	P=0.194	P=0.504N	P=0.323N	P=0.350
POLY 6	P=0.183	P=0.537N	P=0.361N	P=0.322
COCH-ARM / FISHERS	P=0.201	P=0.500N	P=0.309N	P=0.357
MAX-ISO-POLY-3	P=0.157	P=0.339N	P=0.186N	P=0.220

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Mesentery: Fat Necrosis				
LESION RATES				
OVERALL (a)	12/13 (92%)	14/15 (93%)	8/8 (100%)	9/9 (100%)
POLY-3 RATE (b)	12/12.03	14/14.94	8/8.00	9/9.00
POLY-3 PERCENT (g)	99.7%	93.7%	100%	100%
TERMINAL (d)	11/11 (100%)	4/4 (100%)	3/3 (100%)	5/5 (100%)
FIRST INCIDENCE	646	598	291	489
STATISTICAL TESTS				
POLY 3	P=0.470	P=0.581N	P=1.000	P=1.000
POLY 1.5	P=0.422	P=0.629N	P=1.000	P=1.000
POLY 6	P=0.496	P=0.591N	P=1.000	P=1.000
COCH-ARM / FISHERS	P=0.279	P=0.722	P=0.619	P=0.591
MAX-ISO-POLY-3	P=0.477	P=0.214N	P=0.236	P=0.217

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Foreign Body				
LESION RATES				
OVERALL (a)	5/50 (10%)	3/50 (6%)	0/49 (0%)	0/50 (0%)
POLY-3 RATE (b)	5/44.75	3/42.74	0/39.27	0/40.70
POLY-3 PERCENT (g)	11.2%	7%	0%	0%
TERMINAL (d)	3/35 (9%)	2/26 (8%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	530	611	---	---
STATISTICAL TESTS				
POLY 3	P=0.009N**	P=0.381N	P=0.043N*	P=0.039N*
POLY 1.5	P=0.008N**	P=0.365N	P=0.038N*	P=0.035N*
POLY 6	P=0.010N**	P=0.411N	P=0.052N	P=0.046N*
COCH-ARM / FISHERS	P=0.008N**	P=0.357N	P=0.030N*	P=0.028N*
MAX-ISO-POLY-3	P=0.015N*	P=0.256N	P=0.019N*	P=0.016N*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose Inflammation				
LESION RATES				
OVERALL (a)	6/50 (12%)	4/50 (8%)	5/49 (10%)	42/50 (84%)
POLY-3 RATE (b)	6/44.75	4/42.74	5/39.92	42/45.63
POLY-3 PERCENT (g)	13.4%	9.4%	12.5%	92%
TERMINAL (d)	4/35 (11%)	3/26 (12%)	3/24 (13%)	25/25 (100%)
FIRST INCIDENCE	530	611	618	471
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.398N	P=0.580N	P<0.001**
POLY 1.5	P<0.001**	P=0.380N	P=0.552N	P<0.001**
POLY 6	P<0.001**	P=0.432N	P=0.622N	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.370N	P=0.514N	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.282N	P=0.453N	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	22/50 (44%)	42/50 (84%)	39/49 (80%)	50/50 (100%)
POLY-3 RATE (b)	22/45.49	42/47.35	39/44.81	50/50.00
POLY-3 PERCENT (g)	48.4%	88.7%	87%	100%
TERMINAL (d)	17/35 (49%)	25/26 (96%)	24/24 (100%)	25/25 (100%)
FIRST INCIDENCE	530	516	523	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose				
Thrombosis				
LESION RATES				
OVERALL (a)	1/50 (2%)	4/50 (8%)	6/49 (12%)	3/50 (6%)
POLY-3 RATE (b)	1/44.28	4/43.11	6/41.56	3/41.54
POLY-3 PERCENT (g)	2.3%	9.3%	14.4%	7.2%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	683	641	523	603
STATISTICAL TESTS				
POLY 3	P=0.317	P=0.170	P=0.046*	P=0.282
POLY 1.5	P=0.339	P=0.177	P=0.049*	P=0.295
POLY 6	P=0.289	P=0.158	P=0.041*	P=0.266
COCH-ARM / FISHERS	P=0.362	P=0.181	P=0.053	P=0.309
MAX-ISO-POLY-3	P=0.133	P=0.081	P=0.021*	P=0.146

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Accumulation, Hyaline Droplet				
LESION RATES				
OVERALL (a)	8/50 (16%)	2/50 (4%)	0/49 (0%)	0/50 (0%)
POLY-3 RATE (b)	8/44.41	2/42.98	0/39.27	0/40.70
POLY-3 PERCENT (g)	18%	4.7%	0%	0%
TERMINAL (d)	7/35 (20%)	1/26 (4%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	646	516	---	---
STATISTICAL TESTS				
POLY 3	P=0.002N**	P=0.050N*	P=0.006N**	P=0.005N**
POLY 1.5	P=0.002N**	P=0.046N*	P=0.005N**	P=0.004N**
POLY 6	P=0.002N**	P=0.058N	P=0.008N**	P=0.007N**
COCH-ARM / FISHERS	P=0.003N**	P=0.046N*	P=0.003N**	P=0.003N**
MAX-ISO-POLY-3	P<0.001N**	P=0.025N*	P=0.003N**	P=0.002N**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Atrophy				
LESION RATES				
OVERALL (a)	0/50 (0%)	22/50 (44%)	34/49 (69%)	35/50 (70%)
POLY-3 RATE (b)	0/44.10	22/46.59	34/46.29	35/48.68
POLY-3 PERCENT (g)	0%	47.2%	73.4%	71.9%
TERMINAL (d)	0/35 (0%)	11/26 (42%)	17/24 (71%)	16/25 (64%)
FIRST INCIDENCE	---	422	117	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	3/49 (6%)	5/50 (10%)
POLY-3 RATE (b)	0/44.10	0/42.33	3/39.90	5/41.42
POLY-3 PERCENT (g)	0%	0%	7.5%	12.1%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	2/24 (8%)	3/25 (12%)
FIRST INCIDENCE	---	---	523	506
STATISTICAL TESTS				
POLY 3	P=0.002**	(e)	P=0.101	P=0.025*
POLY 1.5	P=0.002**	(e)	P=0.107	P=0.028*
POLY 6	P<0.001**	(e)	P=0.092	P=0.022*
COCH-ARM / FISHERS	P=0.002**	(e)	P=0.117	P=0.028*
MAX-ISO-POLY-3	P=0.003**	(e)	P=0.037*	P=0.009**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Hyperplasia Basal Cell				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/49 (2%)	19/50 (38%)
POLY-3 RATE (b)	0/44.10	0/42.33	1/39.74	19/46.81
POLY-3 PERCENT (g)	0%	0%	2.5%	40.6%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	6/25 (24%)
FIRST INCIDENCE	---	---	589	471
STATISTICAL TESTS				
POLY 3	P<0.001**	(e)	P=0.479	P<0.001**
POLY 1.5	P<0.001**	(e)	P=0.487	P<0.001**
POLY 6	P<0.001**	(e)	P=0.467	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	P=0.495	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	P=0.157	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Metaplasia Respiratory				
LESION RATES				
OVERALL (a)	6/50 (12%)	18/50 (36%)	24/49 (49%)	47/50 (94%)
POLY-3 RATE (b)	6/44.10	18/43.57	24/44.62	47/49.08
POLY-3 PERCENT (g)	13.6%	41.3%	53.8%	95.8%
TERMINAL (d)	6/35 (17%)	15/26 (58%)	10/24 (42%)	25/25 (100%)
FIRST INCIDENCE	730 (T)	590	117	471
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.003**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.003**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.002**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.005**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Olfactory Epithelium Necrosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	2/50 (4%)	0/49 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.10	2/42.33	0/39.27	1/40.72
POLY-3 PERCENT (g)	0%	4.7%	0%	2.5%
TERMINAL (d)	0/35 (0%)	2/26 (8%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	730 (T)	---	725
STATISTICAL TESTS				
POLY 3	P=0.611N	P=0.228	(e)	P=0.484
POLY 1.5	P=0.600N	P=0.234	(e)	P=0.492
POLY 6	P=0.630N	P=0.216	(e)	P=0.472
COCH-ARM / FISHERS	P=0.589N	P=0.247	(e)	P=0.500
MAX-ISO-POLY-3	P=0.340	P=0.076	(e)	P=0.158

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Hyperplasia				
LESION RATES				
OVERALL (a)	15/50 (30%)	43/50 (86%)	48/49 (98%)	49/50 (98%)
POLY-3 RATE (b)	15/45.99	43/49.54	48/48.00	49/50.00
POLY-3 PERCENT (g)	32.6%	86.8%	100%	98%
TERMINAL (d)	9/35 (26%)	21/26 (81%)	24/24 (100%)	24/25 (96%)
FIRST INCIDENCE	530	422	291	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Metaplasia				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	3/49 (6%)	45/50 (90%)
POLY-3 RATE (b)	2/44.25	0/42.33	3/39.27	45/48.36
POLY-3 PERCENT (g)	4.5%	0%	7.6%	93.1%
TERMINAL (d)	1/35 (3%)	0/26 (0%)	3/24 (13%)	23/25 (92%)
FIRST INCIDENCE	691	---	730 (T)	473
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.247N	P=0.446	P<0.001**
POLY 1.5	P<0.001**	P=0.240N	P=0.466	P<0.001**
POLY 6	P<0.001**	P=0.260N	P=0.413	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.247N	P=0.490	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.085N	P=0.287	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Respiratory Epithelium Necrosis				
LESION RATES				
OVERALL (a)	1/50 (2%)	1/50 (2%)	1/49 (2%)	15/50 (30%)
POLY-3 RATE (b)	1/44.10	1/42.33	1/39.33	15/42.09
POLY-3 PERCENT (g)	2.3%	2.4%	2.5%	35.6%
TERMINAL (d)	1/35 (3%)	1/26 (4%)	0/24 (0%)	10/25 (40%)
FIRST INCIDENCE	730 (T)	730 (T)	715	489
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.752	P=0.735	P<0.001**
POLY 1.5	P<0.001**	P=0.758	P=0.744	P<0.001**
POLY 6	P<0.001**	P=0.740	P=0.719	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.753N	P=0.747	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.488	P=0.468	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Turbinate Atrophy				
LESION RATES				
OVERALL (a)	1/50 (2%)	38/50 (76%)	27/49 (55%)	45/50 (90%)
POLY-3 RATE (b)	1/44.10	38/48.52	27/45.48	45/48.52
POLY-3 PERCENT (g)	2.3%	78.3%	59.4%	92.8%
TERMINAL (d)	1/35 (3%)	19/26 (73%)	13/24 (54%)	24/25 (96%)
FIRST INCIDENCE	730 (T)	422	117	471
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	P<0.001**	P<0.001**	P<0.001**	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Nose: Turbinate Hyperostosis				
LESION RATES				
OVERALL (a)	3/50 (6%)	2/50 (4%)	5/49 (10%)	2/50 (4%)
POLY-3 RATE (b)	3/44.10	2/42.33	5/40.12	2/41.51
POLY-3 PERCENT (g)	6.8%	4.7%	12.5%	4.8%
TERMINAL (d)	3/35 (9%)	2/26 (8%)	2/24 (8%)	0/25 (0%)
FIRST INCIDENCE	730 (T)	730 (T)	628	590
STATISTICAL TESTS				
POLY 3	P=0.548	P=0.519N	P=0.305	P=0.528N
POLY 1.5	P=0.561	P=0.506N	P=0.322	P=0.513N
POLY 6	P=0.533	P=0.543N	P=0.279	P=0.548N
COCH-ARM / FISHERS	P=0.567N	P=0.500N	P=0.346	P=0.500N
MAX-ISO-POLY-3	P=0.475N	P=0.343N	P=0.199	P=0.352N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Ovary Cyst				
LESION RATES				
OVERALL (a)	5/50 (10%)	6/50 (12%)	7/50 (14%)	5/50 (10%)
POLY-3 RATE (b)	5/44.82	6/43.55	7/41.22	5/41.70
POLY-3 PERCENT (g)	11.2%	13.8%	17%	12%
TERMINAL (d)	3/35 (9%)	2/26 (8%)	4/24 (17%)	3/25 (12%)
FIRST INCIDENCE	550	593	590	530
STATISTICAL TESTS				
POLY 3	P=0.519	P=0.480	P=0.320	P=0.585
POLY 1.5	P=0.548	P=0.495	P=0.346	P=0.609
POLY 6	P=0.481	P=0.451	P=0.281	P=0.549
COCH-ARM / FISHERS	P=0.528N	P=0.500	P=0.380	P=0.630N
MAX-ISO-POLY-3	P=0.528	P=0.356	P=0.228	P=0.452

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pancreas: Acinus Atrophy				
LESION RATES				
OVERALL (a)	18/50 (36%)	23/50 (46%)	27/50 (54%)	32/50 (64%)
POLY-3 RATE (b)	18/45.82	23/45.60	27/45.18	32/44.93
POLY-3 PERCENT (g)	39.3%	50.4%	59.8%	71.2%
TERMINAL (d)	13/35 (37%)	13/26 (50%)	13/24 (54%)	18/25 (72%)
FIRST INCIDENCE	316	422	587	473
STATISTICAL TESTS				
POLY 3	P<0.001**	P=0.191	P=0.036*	P<0.001**
POLY 1.5	P=0.002**	P=0.206	P=0.039*	P=0.002**
POLY 6	P<0.001**	P=0.162	P=0.033*	P<0.001**
COCH-ARM / FISHERS	P=0.004**	P=0.208	P=0.054	P=0.004**
MAX-ISO-POLY-3	P<0.001**	P=0.138	P=0.023*	P<0.001**

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pituitary Gland Angiectasis				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/49 (2%)	2/50 (4%)
POLY-3 RATE (b)	0/44.10	0/42.33	1/39.46	2/40.70
POLY-3 PERCENT (g)	0%	0%	2.5%	4.9%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	2/25 (8%)
FIRST INCIDENCE	---	---	730 (T)	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.051	(e)	P=0.478	P=0.219
POLY 1.5	P=0.054	(e)	P=0.486	P=0.229
POLY 6	P=0.048*	(e)	P=0.465	P=0.207
COCH-ARM / FISHERS	P=0.058	(e)	P=0.495	P=0.247
MAX-ISO-POLY-3	P=0.084	(e)	P=0.157	P=0.075

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Pituitary Gland: Pars Distalis Hyperplasia				
LESION RATES				
OVERALL (a)	19/50 (38%)	20/50 (40%)	18/49 (37%)	19/50 (38%)
POLY-3 RATE (b)	19/45.97	20/45.11	18/43.59	19/45.51
POLY-3 PERCENT (g)	41.3%	44.3%	41.3%	41.8%
TERMINAL (d)	14/35 (40%)	11/26 (42%)	7/24 (29%)	9/25 (36%)
FIRST INCIDENCE	316	422	523	471
STATISTICAL TESTS				
POLY 3	P=0.484N	P=0.469	P=0.584N	P=0.568
POLY 1.5	P=0.478N	P=0.495	P=0.567N	P=0.583N
POLY 6	P=0.497N	P=0.417	P=0.560	P=0.537
COCH-ARM / FISHERS	P=0.475N	P=0.500	P=0.531N	P=0.582N
MAX-ISO-POLY-3	P=0.689N	P=0.384	P=0.498N	P=0.483

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Skin				
Hyperplasia				
LESION RATES				
OVERALL (a)	1/50 (2%)	1/50 (2%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	1/44.10	1/42.33	0/40.11	2/40.71
POLY-3 PERCENT (g)	2.3%	2.4%	0%	4.9%
TERMINAL (d)	1/35 (3%)	1/26 (4%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	730 (T)	730 (T)	---	726
STATISTICAL TESTS				
POLY 3	P=0.359	P=0.752	P=0.519N	P=0.472
POLY 1.5	P=0.368	P=0.758	P=0.510N	P=0.487
POLY 6	P=0.347	P=0.740	P=0.533N	P=0.451
COCH-ARM / FISHERS	P=0.379	P=0.753N	P=0.500N	P=0.500
MAX-ISO-POLY-3	P=0.277	P=0.488	P=0.181N	P=0.265

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
<hr/>				
Skin				
Inflammation				
<hr/>				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	1/42.33	1/40.11	0/40.70
POLY-3 PERCENT (g)	0%	2.4%	2.5%	0%
TERMINAL (d)	0/35 (0%)	1/26 (4%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	---	730 (T)	730 (T)	---
<hr/>				
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Fibrosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	5/50 (10%)	3/50 (6%)
POLY-3 RATE (b)	0/44.10	1/42.33	5/41.11	3/41.17
POLY-3 PERCENT (g)	0%	2.4%	12.2%	7.3%
TERMINAL (d)	0/35 (0%)	1/26 (4%)	2/24 (8%)	2/25 (8%)
FIRST INCIDENCE	---	730 (T)	523	590
STATISTICAL TESTS				
POLY 3	P=0.049*	P=0.492	P=0.025*	P=0.106
POLY 1.5	P=0.054	P=0.497	P=0.027*	P=0.113
POLY 6	P=0.042*	P=0.481	P=0.021*	P=0.098
COCH-ARM / FISHERS	P=0.062	P=0.500	P=0.028*	P=0.121
MAX-ISO-POLY-3	P=0.042*	P=0.158	P=0.009**	P=0.038*

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen				
Hematopoietic Cell Proliferation				
LESION RATES				
OVERALL (a)	2/50 (4%)	5/50 (10%)	3/50 (6%)	2/50 (4%)
POLY-3 RATE (b)	2/44.41	5/43.66	3/40.79	2/41.42
POLY-3 PERCENT (g)	4.5%	11.5%	7.4%	4.8%
TERMINAL (d)	1/35 (3%)	2/26 (8%)	1/24 (4%)	1/25 (4%)
FIRST INCIDENCE	646	422	618	478
STATISTICAL TESTS				
POLY 3	P=0.344N	P=0.209	P=0.461	P=0.669
POLY 1.5	P=0.325N	P=0.217	P=0.478	P=0.683
POLY 6	P=0.374N	P=0.191	P=0.434	P=0.647
COCH-ARM / FISHERS	P=0.305N	P=0.218	P=0.500	P=0.691N
MAX-ISO-POLY-3	P=0.444	P=0.116	P=0.297	P=0.471

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Hemorrhage				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	3/50 (6%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	3/41.14	0/40.70
POLY-3 PERCENT (g)	0%	0%	7.3%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	---	---	541	---
STATISTICAL TESTS				
POLY 3	P=0.402	(e)	P=0.106	(e)
POLY 1.5	P=0.420	(e)	P=0.112	(e)
POLY 6	P=0.380	(e)	P=0.098	(e)
COCH-ARM / FISHERS	P=0.440	(e)	P=0.121	(e)
MAX-ISO-POLY-3	P=0.177	(e)	P=0.038*	(e)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Spleen Necrosis				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	0/44.10	1/42.33	0/40.11	2/41.21
POLY-3 PERCENT (g)	0%	2.4%	0%	4.9%
TERMINAL (d)	0/35 (0%)	1/26 (4%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	730 (T)	---	603
STATISTICAL TESTS				
POLY 3	P=0.171	P=0.492	(e)	P=0.222
POLY 1.5	P=0.178	P=0.497	(e)	P=0.230
POLY 6	P=0.162	P=0.481	(e)	P=0.211
COCH-ARM / FISHERS	P=0.185	P=0.500	(e)	P=0.247
MAX-ISO-POLY-3	P=0.083	P=0.158	(e)	P=0.076

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Edema				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	0/44.10	0/42.33	1/40.39	1/41.02
POLY-3 PERCENT (g)	0%	0%	2.5%	2.4%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	654	641
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
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 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Hyperplasia				
LESION RATES				
OVERALL (a)	5/50 (10%)	10/50 (20%)	2/50 (4%)	3/50 (6%)
POLY-3 RATE (b)	5/44.67	10/44.82	2/41.33	3/41.39
POLY-3 PERCENT (g)	11.2%	22.3%	4.8%	7.3%
TERMINAL (d)	2/35 (6%)	2/26 (8%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	611	422	291	506
STATISTICAL TESTS				
POLY 3	P=0.045N*	P=0.129	P=0.248N	P=0.399N
POLY 1.5	P=0.039N*	P=0.135	P=0.232N	P=0.376N
POLY 6	P=0.057N	P=0.116	P=0.279N	P=0.434N
COCH-ARM / FISHERS	P=0.036N*	P=0.131	P=0.218N	P=0.357N
MAX-ISO-POLY-3	P=0.076N	P=0.079	P=0.150N	P=0.273N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 CAS Number: 7440-48-4

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Inflammation Chronic				
LESION RATES				
OVERALL (a)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	1/42.72	1/41.05	0/40.70
POLY-3 PERCENT (g)	0%	2.3%	2.4%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	618	291	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Mineralization				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
Cobalt
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Date Report Requested: 01/18/2012
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First Dose M/F: 05/08/06 / 05/08/06
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Forestomach Ulcer				
LESION RATES				
OVERALL (a)	1/50 (2%)	5/50 (10%)	2/50 (4%)	2/50 (4%)
POLY-3 RATE (b)	1/44.51	5/43.48	2/40.71	2/40.73
POLY-3 PERCENT (g)	2.3%	11.5%	4.9%	4.9%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	1/24 (4%)	0/25 (0%)
FIRST INCIDENCE	611	618	541	725
STATISTICAL TESTS				
POLY 3	P=0.410N	P=0.095	P=0.469	P=0.469
POLY 1.5	P=0.387N	P=0.100	P=0.483	P=0.485
POLY 6	P=0.446N	P=0.087	P=0.445	P=0.446
COCH-ARM / FISHERS	P=0.364N	P=0.102	P=0.500	P=0.500
MAX-ISO-POLY-3	P=0.291	P=0.043*	P=0.263	P=0.263

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Edema				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.51	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	4.5%	0%	0%	0%
TERMINAL (d)	1/35 (3%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	611	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.184N	P=0.248N	P=0.261N	P=0.258N
POLY 1.5	P=0.187N	P=0.241N	P=0.250N	P=0.247N
POLY 6	P=0.181N	P=0.262N	P=0.279N	P=0.273N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.054N	P=0.087N	P=0.098N	P=0.095N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Erosion				
LESION RATES				
OVERALL (a)	1/50 (2%)	0/50 (0%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	1/44.76	0/42.33	1/40.58	0/40.70
POLY-3 PERCENT (g)	2.2%	0%	2.5%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	511	---	590	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Stomach, Glandular Ulcer				
LESION RATES				
OVERALL (a)	0/50 (0%)	3/50 (6%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	0/44.10	3/42.82	1/40.71	1/40.70
POLY-3 PERCENT (g)	0%	7%	2.5%	2.5%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	1/25 (4%)
FIRST INCIDENCE	---	670	541	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.495N	P=0.113	P=0.484	P=0.484
POLY 1.5	P=0.479N	P=0.117	P=0.491	P=0.492
POLY 6	P=0.521N	P=0.106	P=0.472	P=0.472
COCH-ARM / FISHERS	P=0.464N	P=0.121	P=0.500	P=0.500
MAX-ISO-POLY-3	P=0.243	P=0.038*	P=0.158	P=0.158

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Thyroid Gland: C-Cell Hyperplasia				
LESION RATES				
OVERALL (a)	9/50 (18%)	9/49 (18%)	8/49 (16%)	6/50 (12%)
POLY-3 RATE (b)	9/44.41	9/42.21	8/40.41	6/41.19
POLY-3 PERCENT (g)	20.3%	21.3%	19.8%	14.6%
TERMINAL (d)	7/35 (20%)	7/25 (28%)	5/24 (21%)	2/25 (8%)
FIRST INCIDENCE	683	578	593	634
STATISTICAL TESTS				
POLY 3	P=0.251N	P=0.557	P=0.586N	P=0.342N
POLY 1.5	P=0.229N	P=0.579	P=0.557N	P=0.312N
POLY 6	P=0.281N	P=0.513	P=0.582	P=0.385N
COCH-ARM / FISHERS	P=0.203N	P=0.584	P=0.518N	P=0.288N
MAX-ISO-POLY-3	P=0.393N	P=0.451	P=0.478N	P=0.253N

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Tooth Inflammation Chronic				
LESION RATES				
OVERALL (a)	1/1 (100%)	0/0 (0%)	2/2 (100%)	2/2 (100%)
POLY-3 RATE (b)	1/1.00	0/0.00	2/2.00	2/2.00
POLY-3 PERCENT (g)	100%	0%	100%	100%
TERMINAL (d)	0/0 (0%)	0/0 (0%)	1/1 (100%)	1/1 (100%)
FIRST INCIDENCE	722	---	628	717
STATISTICAL TESTS				
POLY 3	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Urinary Bladder Inflammation				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
 Cobalt
 CAS Number: 7440-48-4

Date Report Requested: 01/18/2012
 Time Report Requested: 14:48:12
 First Dose M/F: 05/08/06 / 05/08/06
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Urinary Bladder Inflammation Granulomatous				
LESION RATES				
OVERALL (a)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.10	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	0%	0%	0%	0%
TERMINAL (d)	0/35 (0%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	---	---	---	---
STATISTICAL TESTS				
POLY 3	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Uterus				
Inflammation Chronic				
LESION RATES				
OVERALL (a)	1/50 (2%)	2/50 (4%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	1/44.41	2/42.33	1/40.11	1/40.70
POLY-3 PERCENT (g)	2.3%	4.7%	2.5%	2.5%
TERMINAL (d)	0/35 (0%)	2/26 (8%)	1/24 (4%)	1/25 (4%)
FIRST INCIDENCE	646	730 (T)	730 (T)	730 (T)
STATISTICAL TESTS				
POLY 3	P=0.482N	P=0.483	P=0.738	P=0.741
POLY 1.5	P=0.468N	P=0.494	P=0.748	P=0.751
POLY 6	P=0.503N	P=0.463	P=0.720	P=0.726
COCH-ARM / FISHERS	P=0.453N	P=0.500	P=0.753N	P=0.753N
MAX-ISO-POLY-3	P=0.620N	P=0.271	P=0.471	P=0.475

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

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STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
TERMINAL SACRIFICE AT 105 WEEKS

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Uterus				
Necrosis				
LESION RATES				
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.13	0/42.33	0/40.11	0/40.70
POLY-3 PERCENT (g)	4.5%	0%	0%	0%
TERMINAL (d)	1/35 (3%)	0/26 (0%)	0/24 (0%)	0/25 (0%)
FIRST INCIDENCE	722	---	---	---
STATISTICAL TESTS				
POLY 3	P=0.185N	P=0.246N	P=0.259N	P=0.255N
POLY 1.5	P=0.187N	P=0.240N	P=0.249N	P=0.246N
POLY 6	P=0.182N	P=0.259N	P=0.276N	P=0.270N
COCH-ARM / FISHERS	P=0.187N	P=0.247N	P=0.247N	P=0.247N
MAX-ISO-POLY-3	P=0.052N	P=0.085N	P=0.097N	P=0.093N

Experiment Number: 60311 - 05
 Test Type: CHRONIC
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS
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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(F344/N Tac)
 TERMINAL SACRIFICE AT 105 WEEKS**

DOSE	Females			
	Control	1.25 mg/m3	2.5 mg/m3	5.0 mg/m3
Uterus: Endometrium Hyperplasia Cystic				
LESION RATES				
OVERALL (a)	4/50 (8%)	2/50 (4%)	1/50 (2%)	4/50 (8%)
POLY-3 RATE (b)	4/44.44	2/42.33	1/40.11	4/41.06
POLY-3 PERCENT (g)	9%	4.7%	2.5%	9.7%
TERMINAL (d)	2/35 (6%)	2/26 (8%)	1/24 (4%)	2/25 (8%)
FIRST INCIDENCE	646	730 (T)	730 (T)	634
STATISTICAL TESTS				
POLY 3	P=0.439	P=0.359N	P=0.211N	P=0.600
POLY 1.5	P=0.451	P=0.345N	P=0.196N	P=0.623
POLY 6	P=0.423	P=0.388N	P=0.237N	P=0.566
COCH-ARM / FISHERS	P=0.468	P=0.339N	P=0.181N	P=0.643N
MAX-ISO-POLY-3	P=0.366	P=0.223N	P=0.114N	P=0.454

Experiment Number: 60311 - 05
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/F344/N Tac

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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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 ***