

**Experiment Number:** 60311 - 04  
**Test Type:** 90-DAY  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

Cobalt  
**CAS Number:** 7440-48-4

**Date Report Requested:** 08/16/2012  
**Time Report Requested:** 09:00:49  
**First Dose M/F:** 03/07/05 / 03/07/05  
**Lab:** BNW

F2\_M3

**NTP Study Number:** C60311  
**Lock Date:** 11/29/2005  
**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 MICE**

**Organ**

Epididymis

Larynx

Lung

Lung: Alveolus

Lung: Bronchiole, Epithelium

Lung: Epithelium, Alveolar/Bronchiolar

Nose

Nose: Olfactory Epithelium

Nose: Respiratory Epithelium

Nose: Turbinate

Testes: Germinal Epithelium

**FEMALE MICE**

**Organ**

Larynx

Lung

Lung: Alveolus

Lung: Bronchiole, Epithelium

Lung: Epithelium, Alveolar/Bronchiolar

Nose

Nose: Olfactory Epithelium

**Morphology**

Atrophy

Exfoliated Germ Cell

Hypospermia

Vacuolization Cytoplasmic

Metaplasia

Hemorrhage

Infiltration Cellular Histiocyte

Proteinosis

Hyperplasia

Vacuolization Cytoplasmic

Karyomegaly

Inflammation Chronic

Degeneration

Hyperplasia

Degeneration

Metaplasia

Atrophy

Degeneration

**Morphology**

Metaplasia

Emphysema

Hemorrhage

Infiltration Cellular Histiocyte

Proteinosis

Hyperplasia

Vacuolization Cytoplasmic

Karyomegaly

Inflammation Chronic

Degeneration

Hyperplasia

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**SUMMARY OF STATISTICALLY SIGNIFICANT ( $P \leq .05$ ) RESULTS IN THE ANALYSIS OF COBALT**

Nose: Respiratory Epithelium

Nose: Turbinate

Degeneration

Metaplasia

Atrophy

Experiment Number: 60311 - 04

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Epididymis Atrophy</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Epididymis Exfoliated Germ Cell</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Epididymis</b>						
<b>Hypospermia</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	0%	0%	0%	0%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
<b>POLY 1.5</b>	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
<b>POLY 6</b>	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

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Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Epididymis Vacuolization Cytoplasmic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	9/10 (90%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	9/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	90%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	9/10 (90%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	P<0.001**

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Eye</b>						
<b>Hemorrhage Acute</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	0%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	95 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.500N
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.500N
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.500N
COCH-ARM / FISHERS	P=0.304N	(e)	(e)	(e)	(e)	P=0.500N
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.158N

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

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DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<hr/>						
Harderian Gland Hemorrhage						
<hr/>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<hr/>						
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Kidney Nephropathy</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	1/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	10%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
FIRST INCIDENCE	95 (T)	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.760
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.760
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.760
COCH-ARM / FISHERS	P=0.645	(e)	(e)	(e)	(e)	P=0.763N
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=1.000

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Species/Strain: MICE/B6C3F1

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First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Kidney: Renal Tubule Cyst</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	2/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	20%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.227
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.227
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.227
COCH-ARM / FISHERS	P=0.132	(e)	(e)	(e)	(e)	P=0.237
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.067

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Species/Strain: MICE/B6C3F1

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Larynx</b>						
<b>Metaplasia</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	100%	100%	100%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	95 (T)	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 6</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

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DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<hr/>						
Liver						
Inflammation Chronic						
<hr/>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<hr/>						
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

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Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Emphysema</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung Hemorrhage</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	1/10 (10%)	0/10 (0%)	1/10 (10%)	7/10 (70%)	6/10 (60%)
POLY-3 RATE (b)	0/10.00	1/10.00	0/10.00	1/10.00	7/10.00	6/10.00
POLY-3 PERCENT (g)	0%	10%	0%	10%	70%	60%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	0/10 (0%)	1/10 (10%)	7/10 (70%)	6/10 (60%)
FIRST INCIDENCE	---	95 (T)	---	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.500	(e)	P=0.500	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.500	(e)	P=0.500	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.500	(e)	P=0.500	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500	(e)	P=0.500	P=0.002**	P=0.005**
MAX-ISO-POLY-3	P<0.001**	P=0.158	(e)	P=0.158	P<0.001**	P<0.001**

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Metaplasia Osseous</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	10%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.107	(e)	(e)	(e)	(e)	P=0.500
POLY 1.5	P=0.107	(e)	(e)	(e)	(e)	P=0.500
POLY 6	P=0.107	(e)	(e)	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.105	(e)	(e)	(e)	(e)	P=0.500
MAX-ISO-POLY-3	P=0.074	(e)	(e)	(e)	(e)	P=0.158

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Alveolus Infiltration Cellular Histiocyte</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	100%	100%	100%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	95 (T)	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 6</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Alveolus</b>						
<b>Proteinosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Arteriole Thrombosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)**  
**TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium</b>						
<b>Vacuolization Cytoplasmic</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	100%	100%	100%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	95 (T)	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 6</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Epithelium, Alveolar/Bronchiolar</b>						
<b>Karyomegaly</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Erythrophagocytosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/5 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/6 (33%)
POLY-3 RATE (b)	0/5.00	0/0.00	0/0.00	0/0.00	0/0.00	2/6.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	33.3%
TERMINAL (d)	0/5 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/6 (33%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.260
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.260
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.260
COCH-ARM / FISHERS	P=0.150	(e)	(e)	(e)	(e)	P=0.273
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.085

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lymph Node, Mesenteric: Lymphocyte Necrosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	0%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	95 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.500N
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.500N
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.500N
COCH-ARM / FISHERS	P=0.304N	(e)	(e)	(e)	(e)	P=0.500N
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.158N

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose</b>						
<b>Inflammation Chronic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	8/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	80%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Degeneration</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	2/10 (20%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	2/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	20%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	2/10 (20%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	95 (T)	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.227	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.227	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.227	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.237	P<0.001**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.067	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	1/10 (10%)	5/10 (50%)	2/10 (20%)	3/10 (30%)
POLY-3 RATE (b)	0/10.00	0/10.00	1/10.00	5/10.00	2/10.00	3/10.00
POLY-3 PERCENT (g)	0%	0%	10%	50%	20%	30%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	1/10 (10%)	5/10 (50%)	2/10 (20%)	3/10 (30%)
FIRST INCIDENCE	---	---	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.051	(e)	P=0.500	P=0.008**	P=0.227	P=0.095
POLY 1.5	P=0.051	(e)	P=0.500	P=0.008**	P=0.227	P=0.095
POLY 6	P=0.051	(e)	P=0.500	P=0.008**	P=0.227	P=0.095
COCH-ARM / FISHERS	P=0.063	(e)	P=0.500	P=0.016*	P=0.237	P=0.105
MAX-ISO-POLY-3	P=0.035*	(e)	P=0.158	P=0.002**	P=0.067	P=0.024*

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Degeneration</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	6/10 (60%)	9/10 (90%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	6/10.00	9/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	60%	90%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	6/10 (60%)	9/10 (90%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	P=0.005**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	P<0.001**	P<0.001**	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Metaplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	2/10 (20%)	5/10 (50%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	2/10.00	5/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	20%	50%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	2/10 (20%)	5/10 (50%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	95 (T)	95 (T)	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	P=0.227	P=0.008**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	P=0.227	P=0.008**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	P=0.227	P=0.008**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	P=0.237	P=0.016*	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	P=0.067	P=0.002**	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Turbinate Atrophy</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	8/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	80%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	(e)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)**  
**TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Pleura</b>						
<b>Infiltration Cellular Focal Mixed Cell</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Stomach, Forestomach Hyperkeratosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	10%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.304	(e)	(e)	(e)	(e)	P=0.500
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.158

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Testes: Germinal Epithelium Degeneration</b>						
<b>LESION RATES</b>						
OVERALL (a)	2/10 (20%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	10/10 (100%)
POLY-3 RATE (b)	2/10.00	0/10.00	0/10.00	0/10.00	1/10.00	10/10.00
POLY-3 PERCENT (g)	20%	0%	0%	0%	10%	100%
TERMINAL (d)	2/10 (20%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	10/10 (100%)
FIRST INCIDENCE	95 (T)	---	---	---	95 (T)	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.227N	P=0.227N	P=0.227N	P=0.500N	P<0.001**
POLY 1.5	P<0.001**	P=0.227N	P=0.227N	P=0.227N	P=0.500N	P<0.001**
POLY 6	P<0.001**	P=0.227N	P=0.227N	P=0.227N	P=0.500N	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.237N	P=0.237N	P=0.237N	P=0.500N	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.067N	P=0.067N	P=0.067N	P=0.274N	P<0.001**

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Males					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
Trachea Erosion						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	10%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	---	95 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.304	(e)	(e)	(e)	(e)	P=0.500
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.158

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Eye</b>						
<b>Hemorrhage Acute</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Harderian Gland Hemorrhage</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	10%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	---	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 1.5	(e)	(e)	(e)	(e)	(e)	P=0.500
POLY 6	(e)	(e)	(e)	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.292	(e)	(e)	(e)	(e)	P=0.500
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	P=0.158

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Kidney Nephropathy</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	2/10 (20%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	2/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	20%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	2/10 (20%)
FIRST INCIDENCE	96 (T)	---	---	---	---	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	P=0.943N	(e)	P=0.500
POLY 1.5	(e)	(e)	(e)	P=0.943N	(e)	P=0.500
POLY 6	(e)	(e)	(e)	P=0.909N	(e)	P=0.500
COCH-ARM / FISHERS	P=0.358	(e)	(e)	P=0.909N	(e)	P=0.500
MAX-ISO-POLY-3	(e)	(e)	(e)	P=0.499N	(e)	P=0.274

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

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DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Kidney: Renal Tubule Cyst</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

---

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Larynx Metaplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	100%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	10/10 (100%)	10/10 (100%)	9/9 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	96 (T)	96 (T)	4	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Liver</b>						
<b>Inflammation Chronic</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	0%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	96 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	P=0.943N	(e)	P=0.500N
POLY 1.5	(e)	(e)	(e)	P=0.943N	(e)	P=0.500N
POLY 6	(e)	(e)	(e)	P=0.909N	(e)	P=0.500N
COCH-ARM / FISHERS	P=0.310N	(e)	(e)	P=0.909N	(e)	P=0.500N
MAX-ISO-POLY-3	(e)	(e)	(e)	P=0.499N	(e)	P=0.158N

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Emphysema</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	3/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	30%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	3/10 (30%)
FIRST INCIDENCE	---	---	---	---	---	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	(e)	P=0.095
POLY 1.5	P<0.001**	(e)	(e)	(e)	(e)	P=0.095
POLY 6	P<0.001**	(e)	(e)	(e)	(e)	P=0.095
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	(e)	P=0.105
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	P=0.025*

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung Hemorrhage</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	2/10 (20%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	8/10.00	2/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	80%	20%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	8/10 (80%)	2/10 (20%)
FIRST INCIDENCE	---	---	---	---	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P=0.227
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P=0.227
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P=0.227
COCH-ARM / FISHERS	P=0.005**	(e)	(e)	(e)	P<0.001**	P=0.237
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	P=0.066

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Metaplasia Osseous</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)**  
**TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Alveolus Infiltration Cellular Histiocyte</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	100%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	10/10 (100%)	10/10 (100%)	9/9 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	96 (T)	96 (T)	4	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Alveolus Proteinosis</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	0/10.00	0/10.00	0/9.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	0%	0%	0%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	---	---	---	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
<b>POLY 6</b>	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Arteriole Thrombosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	1/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	10%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	4	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.697N	(e)	(e)	P=0.500	(e)	(e)
POLY 1.5	P=0.697N	(e)	(e)	P=0.500	(e)	(e)
POLY 6	P=0.697N	(e)	(e)	P=0.500	(e)	(e)
COCH-ARM / FISHERS	P=0.699N	(e)	(e)	P=0.500	(e)	(e)
MAX-ISO-POLY-3	P=0.282	(e)	(e)	P=0.158	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	9/9 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	4	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium Vacuolization Cytoplasmic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	100%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	10/10 (100%)	10/10 (100%)	9/9 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	96 (T)	96 (T)	4	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	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**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lung: Epithelium, Alveolar/Bronchiolar Karyomegaly</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Erythrophagocytosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/6 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/7 (0%)
POLY-3 RATE (b)	0/6.00	0/0.00	0/0.00	0/0.00	0/0.00	0/7.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/6 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/7 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Lymph Node, Mesenteric: Lymphocyte Necrosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose</b>						
<b>Inflammation Chronic</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	0/10.00	0/10.00	1/9.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	0%	0%	11.1%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/9 (11%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	---	---	96 (T)	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	(e)	(e)	P=0.479	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P<0.001**	(e)	(e)	P=0.479	P<0.001**	P<0.001**
<b>POLY 6</b>	P<0.001**	(e)	(e)	P=0.479	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P<0.001**	(e)	(e)	P=0.500	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	P=0.157	(e)	(e)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)**  
**TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Degeneration</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	1/10 (10%)	7/10 (70%)	9/10 (90%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	1/10.00	7/10.00	9/9.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	10%	70%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	7/10 (70%)	9/9 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	96 (T)	96 (T)	96 (T)	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.500	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.500	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.500	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500	P=0.002**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.158	P<0.001**	P<0.001**	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	3/9.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	33.3%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/9 (33%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	96 (T)	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.536N	(e)	(e)	P=0.076	(e)	(e)
POLY 1.5	P=0.536N	(e)	(e)	P=0.076	(e)	(e)
POLY 6	P=0.536N	(e)	(e)	P=0.076	(e)	(e)
COCH-ARM / FISHERS	P=0.522N	(e)	(e)	P=0.105	(e)	(e)
MAX-ISO-POLY-3	P=0.118	(e)	(e)	P=0.023*	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Degeneration</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	1/10 (10%)	8/10 (80%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	1/10.00	8/9.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	10%	88.9%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	1/10 (10%)	8/9 (89%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	96 (T)	96 (T)	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	P=0.500	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	P=0.500	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	P=0.500	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	P=0.500	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	P=0.158	P<0.001**	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Metaplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	9/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	90%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/9 (89%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	4	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P<0.001**	(e)	(e)

Experiment Number: 60311 - 04  
 Test Type: 90-DAY  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: MICE/B6C3F1

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

Date Report Requested: 08/16/2012  
 Time Report Requested: 09:00:49  
 First Dose M/F: 03/07/05 / 03/07/05  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Nose: Turbinate Atrophy</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/9.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/9 (0%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	96 (T)	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Pleura</b>						
<b>Infiltration Cellular Focal Mixed Cell</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	1/1.00	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	100%	0%	0%	0%	0%	0%
TERMINAL (d)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	96 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Stomach, Forestomach Hyperkeratosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS**

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
Trachea Erosion						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	0/9 (0%)
POLY-3 RATE (b)	0/10.00	0/0.00	0/0.00	0/0.00	0/0.00	0/9.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/9 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

Cobalt

CAS Number: 7440-48-4

Date Report Requested: 08/16/2012

Time Report Requested: 09:00:49

First Dose M/F: 03/07/05 / 03/07/05

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 14 WEEKS

DOSE	Females					
	control	0.625 mg/m3	1.25 mg/m3	2.5 mg/m3	5 mg/m3	10 mg/m3
<b>Uterus: Endometrium Inflammation</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/1 (0%)	0/0 (0%)	1/10 (10%)
POLY-3 RATE (b)	1/10.00	0/0.00	0/0.00	0/0.00	0/0.00	1/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	10%
TERMINAL (d)	1/10 (10%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/10 (10%)
FIRST INCIDENCE	96 (T)	---	---	---	---	96 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	P=0.943N	(e)	P=0.760
POLY 1.5	(e)	(e)	(e)	P=0.943N	(e)	P=0.760
POLY 6	(e)	(e)	(e)	P=0.909N	(e)	P=0.760
COCH-ARM / FISHERS	P=0.634	(e)	(e)	P=0.909N	(e)	P=0.763N
MAX-ISO-POLY-3	(e)	(e)	(e)	P=0.499N	(e)	P=1.000

**Experiment Number:** 60311 - 04  
**Test Type:** 90-DAY  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** MICE/B6C3F1

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

**Date Report Requested:** 08/16/2012  
**Time Report Requested:** 09:00:49  
**First Dose M/F:** 03/07/05 / 03/07/05  
**Lab:** BNW

## **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 \*\*\*