

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 1 TMT: 1
DOSE: control

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53136

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|---------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Epididymis | * Esophagus | * Eye |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Larynx | * Liver |
| * Lung | * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric |
| * Nose | * Pancreas | * Pituitary Gland | * Preputial Gland |
| * Prostate | * Salivary Glands | * Seminal Vesicle | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Testes |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |

MISSING

- | | | | |
|---------------|--------------------------|-----------------|---------------------|
| * Gallbladder | * Lymph Node, Mandibular | * Mammary Gland | * Parathyroid Gland |
|---------------|--------------------------|-----------------|---------------------|

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P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 2 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53137

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lung
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mesenteric
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Larynx
- * Nose
- * Prostate
- * Spleen
- * Thymus
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland

MISSING

- * Lymph Node, Bronchial
- * Parathyroid Gland
- * Lymph Node, Mandibular
- * Lymph Node, Mediastinal
- * Mammary Gland

OBSERVATIONS

- * Kidney Nephropathy Minimal

TDMS No. 60311 - 04

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Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 3 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53138

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Pancreas
- * Prostate
- * Spleen
- * Thymus
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Parathyroid Gland
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Nose
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mandibular
- * Lymph Node, Mediastinal
- * Mammary Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

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CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 4 TMT: 1
DOSE: control

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53139

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Nose
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Pancreas
- * Prostate
- * Spleen
- * Thymus

- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mandibular
- * Parathyroid Gland
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland

- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea

MISSING

- * Lymph Node, Bronchial

- * Lymph Node, Mediastinal

- * Mammary Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

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CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 5 TMT: 1
DOSE: control

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53140

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex
* Brain
* Gallbladder
* Intestine Large, Colon
* Intestine Small, Jejunum
* Liver
* Nose
* Preputial Gland
* Skin
* Testes
* Urinary Bladder

* Adrenal Medulla
* Epididymis
* Harderian Gland
* Intestine Large, Rectum
* Islets, Pancreatic
* Lung
* Pancreas
* Prostate
* Spleen
* Thymus

* Bone
* Esophagus
* Heart
* Intestine Small, Duodenum
* Kidney
* Lymph Node, Mandibular
* Parathyroid Gland
* Salivary Glands
* Stomach, Forestomach
* Thyroid Gland

* Bone Marrow
* Eye
* Intestine Large, Cecum
* Intestine Small, Ileum
* Larynx
* Lymph Node, Mesenteric
* Pituitary Gland
* Seminal Vesicle
* Stomach, Glandular
* Trachea

MISSING

* Lymph Node, Bronchial

* Lymph Node, Mediastinal

* Mammary Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 6 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53141

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Nose
- * Prostate
- * Spleen
- * Thymus
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

MISSING

- * Lymph Node, Mandibular
- * Lymph Node, Mediastinal
- * Mammary Gland
- * Parathyroid Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

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Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 7 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53142

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Nose
- * Prostate
- * Spleen
- * Thymus
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

MISSING

- * Lymph Node, Mandibular
- * Lymph Node, Mediastinal
- * Mammary Gland
- * Parathyroid Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 8 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53143

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Pancreas
- * Prostate
- * Spleen
- * Thymus
- * Adrenal Medulla
- * Epididymis
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Parathyroid Gland
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Bone
- * Esophagus
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Bone Marrow
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Nose
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder

MISSING

- * Lymph Node, Mandibular
- * Lymph Node, Mediastinal
- * Mammary Gland

OBSERVATIONS

- * Eye Hemorrhage Acute, Moderate

TDMS No. 60311 - 04

Test Type: 90-DAY

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Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 9 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53144

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Lymph Node, Mesenteric
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Nose
- * Prostate
- * Spleen
- * Thymus
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mandibular
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea

MISSING

- * Lymph Node, Mediastinal
- * Mammary Gland
- * Parathyroid Gland

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 10 TMT: 1 DOSE: control

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53145

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Thyroid Gland
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Trachea
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mandibular
- * Preputial Gland
- * Skin
- * Testes
- * Urinary Bladder
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Nose
- * Prostate
- * Spleen
- * Thymus

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mediastinal
- * Mammary Gland
- * Parathyroid Gland

OBSERVATIONS

- * Lymph Node, Mesenteric
- Lymphocyte
- Necrosis
- Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 201 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53236

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 202 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53237

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04
Test Type: 90-DAY
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
COBALT
CAS Number: 7440-48-4

Date Report Requested: 06/18/2007
Time Report Requested: 13:56:10
First Dose M/F: 03/07/05 / 03/07/05
Lab: BNW

ANIMAL NUM:	203	TMT:	3	SEX:	Male	DAY ON TEST:	95
		DOSE:	0.625 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53238

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 204 **TMT:** 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53239

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx Metaplasia Squamous, Minimal
* Lung Alveolus Infiltration Cellular Histiocyte, Minimal
Bronchiole, Epithelium Vacuolization Cytoplasmic Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	205	TMT:	3
		DOSE:	0.625 mg/m3

SEX:	Male
DISP:	Terminal Sacrifice

DAY ON TEST:	95
HISTO:	53240

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose	Testes
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OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 206 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53241

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 207 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53242

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 208 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53243

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal

TDMS No. 60311 - 04
Test Type: 90-DAY
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA
 COBALT
CAS Number: 7440-48-4

Date Report Requested: 06/18/2007
Time Report Requested: 13:56:10
First Dose M/F: 03/07/05 / 03/07/05
Lab: BNW

ANIMAL NUM:	209	TMT:	3	SEX:	Male	DAY ON TEST:	95
		DOSE:	0.625 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53244

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose
 Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 210 TMT: 3
DOSE: 0.625 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53245

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 401 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53216

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 402 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53217

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 403 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53218

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 404 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53219

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 405 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53220

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 406 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53221

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 407 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53222

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 408 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53223

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 409 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53224

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 410 TMT: 5
DOSE: 1.25 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53225

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 601 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53196

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung		Hemorrhage	Minimal
	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 602 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53197

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 603 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53198

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 604 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53199

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 605 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53200

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 606 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53201

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 607 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53202

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 608 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53203

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 609 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53204

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 610 TMT: 7
DOSE: 2.5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53205

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	801	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53176

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Minimal
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Minimal
		Olfactory Epi	Hyperplasia	Minimal
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	802	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53177

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Minimal
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	803	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53178

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Minimal
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	804	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53179

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
		Olfactory Epi	Hyperplasia	Minimal
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	805	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53180

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 806 TMT: 9
DOSE: 5 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53181

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
	Alv Bron, Epithelium	Karyomegaly	Minimal
	Alveolus	Proteinosis	Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia TGLs = 1-4]		
* Nose	Turbinate	Atrophy	Mild
	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	807	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53182

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Moderate
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Minimal
		Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	808	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53183

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Minimal
* Lung		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Minimal
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	809	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53184

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	810	TMT:	9	SEX:	Male	DAY ON TEST:	95
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53185

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Testes

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung		Hemorrhage	Mild
	Bronchiole, Epithelium	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
	Alv Bron, Epithelium	Karyomegaly	Minimal
	Alveolus	Proteinosis	Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia TGLs = 1-4]		
* Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
		Inflammation	Chronic Active, Minimal
	Respirat Epith	Metaplasia	Squamous, Mild

Note: NOSE, TURBINATE - INSUFFICIENT TISSUE

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1001	TMT: 11	SEX: Male	DAY ON TEST: 95
	DOSE: 10 mg/m3	DISP: Terminal Sacrifice	HISTO: 53156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Liver | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Pancreas | * Parathyroid Gland |
| * Preputial Gland | * Prostate | * Salivary Glands | * Seminal Vesicle |
| * Skin | * Spleen | * Stomach, Forestomach | * Stomach, Glandular |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |

MISSING

- | | |
|-------------------------|-----------------|
| * Lymph Node, Bronchial | * Mammary Gland |
|-------------------------|-----------------|

INSUFFICIENT TISSUE

- * Pituitary Gland

OBSERVATIONS

- | | | | |
|--------------|-----------------------------|---------------------------|----------------------|
| * Epididymis | | Hypospermia | Moderate |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Hemorrhage | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 2-4] | | |
| * Nose | | Atrophy | Moderate |
| | Turbinate | Degeneration | Moderate |
| | Olfactory Epi | Degeneration | Mild |
| | Respirat Epith | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | | Degeneration | Moderate |
| | Germinal Epith | | |
| | [Degeneration TGLs = 1-8] | | |

* PROTOCOL REQUIRED TISSUE

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 1002	TMT: 11	SEX: Male	DAY ON TEST: 95
DOSE: 10 mg/m3		DISP: Terminal Sacrifice	HISTO: 53157

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Liver | * Lymph Node, Bronchial |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Pancreas | * Pituitary Gland |
| * Preputial Gland | * Prostate | * Salivary Glands | * Seminal Vesicle |
| * Skin | * Spleen | * Stomach, Forestomach | * Stomach, Glandular |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |

MISSING

- | | | |
|---------------------------|-----------------|---------------------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|---------------------------|-----------------|---------------------|

OBSERVATIONS

- | | | | |
|----------------|------------------------|---------------------------|----------------------|
| * Epididymis | | Hypospermia | Moderate |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Hemorrhage | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Moderate |
| [Hyperplasia | TGLs = 2-4] | | |
| * Nose | | Atrophy | Moderate |
| | Turbinat | Degeneration | Moderate |
| | Olfactory Epi | Degeneration | Mild |
| | Respirat Epith | Hyperplasia | Mild |
| | Olfactory Epi | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | | Degeneration | Moderate |
| [Degeneration | TGLs = 1-8] | | |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1003	TMT: 11	SEX: Male	DAY ON TEST: 95
	DOSE: 10 mg/m3	DISP: Terminal Sacrifice	HISTO: 53158

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|-----------------------------|--------------------------|----------------------------|---------------------------|
| * Adrenal Cortex | * Bone | * Bone Marrow | * Brain |
| * Esophagus | * Eye | * Gallbladder | * Harderian Gland |
| * Heart | * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum |
| * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic |
| * Liver | * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mesenteric |
| * Pancreas | * Parathyroid Gland | * Pituitary Gland | * Preputial Gland |
| * Prostate | * Salivary Glands | * Seminal Vesicle | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | |

MISSING

- | | |
|---------------------------|-----------------|
| * Lymph Node, Mediastinal | * Mammary Gland |
|---------------------------|-----------------|

INSUFFICIENT TISSUE

- * Adrenal Medulla

OBSERVATIONS

- | | | | |
|--------------|-----------------------------|---------------------------|----------------------|
| * Epididymis | | Hypospermia | Moderate |
| * Kidney | | Nephropathy | Minimal |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 2-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | Germinal Epith | Degeneration | Moderate |
| | [Degeneration TGLs = 1-8] | | |

* PROTOCOL REQUIRED TISSUE

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1004	TMT: 11	SEX: Male	DAY ON TEST: 95
	DOSE: 10 mg/m3	DISP: Terminal Sacrifice	HISTO: 53159

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Liver | * Lymph Node, Bronchial | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Pancreas | * Pituitary Gland | * Preputial Gland |
| * Prostate | * Salivary Glands | * Seminal Vesicle | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | |

MISSING

- | | | |
|---------------------------|-----------------|---------------------|
| * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|---------------------------|-----------------|---------------------|

OBSERVATIONS

- | | | | |
|--------------|-----------------------------|---------------------------|--------------------------|
| * Epididymis | | Hypospermia | Moderate |
| * Kidney | Renal Tubule | Cyst | Multiple |
| | [Cyst TGLs = 2-6] | | |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | | Metaplasia | Osseous, Minimal |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 3-4] | | |
| * Nose | Turbinates | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | Germinal Epith | Degeneration | Moderate |
| | [Degeneration TGLs = 1-8] | | |

* PROTOCOL REQUIRED TISSUE

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 1005 TMT: 11 DOSE: 10 mg/m3

SEX: Male DISP: Terminal Sacrifice

DAY ON TEST: 95 HISTO: 53160

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mediastinal
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Urinary Bladder
- * Adrenal Medulla
- * Epididymis
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mesenteric
- * Preputial Gland
- * Skin
- * Thymus
- * Bone
- * Esophagus
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Pancreas
- * Prostate
- * Spleen
- * Thyroid Gland
- * Bone Marrow
- * Eye
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Mandibular
- * Parathyroid Gland
- * Salivary Glands
- * Stomach, Forestomach
- * Trachea

MISSING

- * Gallbladder
- * Lymph Node, Bronchial
- * Mammary Gland

OBSERVATIONS

- * Larynx
 - * Lung
 - Bronchiole, Epithelium
 - Alveolus
 - Alv Bron, Epithelium
 - Alveolus
 - Bronchiole, Epithelium
 - [Hyperplasia TGLs = 2-4]
 - * Nose
 - Turbinate
 - Olfactory Epi
 - Respirat Epith
 - Respirat Epith
 - Germinal Epith
 - [Degeneration TGLs = 1-8]
 - * Testes
- Metaplasia
Hyperplasia
Infiltration Cellular
Karyomegaly
Proteinosis
Vacuolization Cytoplasmic
- Atrophy
Degeneration
Degeneration
Inflammation
Metaplasia
Degeneration
- Squamous, Mild
Moderate
Histiocyte, Moderate
Moderate
Mild
Marked
- Moderate
Moderate
Mild
Chronic Active, Mild
Squamous, Mild
Moderate

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1006 TMT: 11
DOSE: 10 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53161

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Epididymis | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Liver |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Pancreas |
| * Parathyroid Gland | * Pituitary Gland | * Preputial Gland | * Prostate |
| * Salivary Glands | * Seminal Vesicle | * Skin | * Spleen |
| * Stomach, Forestomach | * Stomach, Glandular | * Thymus | * Thyroid Gland |
| * Trachea | * Urinary Bladder | | |

MISSING

- * Mammary Gland

OBSERVATIONS

- | | | | |
|-------------------------|-----------------------------|---------------------------|--------------------------|
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Hemorrhage | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 2-4] | | |
| * Lymph Node, Bronchial | | Erythrophagocytosis | Minimal |
| * Nose | | Atrophy | Moderate |
| | Turbinate | Degeneration | Moderate |
| | Olfactory Epi | Degeneration | Mild |
| | Respirat Epith | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Minimal |
| * Testes | | Degeneration | Moderate |
| | Germinal Epith | | |
| | [Degeneration TGLs = 1-8] | | |

ANIMAL NUM: 1007	TMT: 11	SEX: Male	DAY ON TEST: 95
	DOSE: 10 mg/m3	DISP: Terminal Sacrifice	HISTO: 53162

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | Blood Vessel | * Bone |
| * Bone Marrow | * Brain | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Liver | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Pancreas | * Parathyroid Gland | * Pituitary Gland |
| * Preputial Gland | * Prostate | * Salivary Glands | * Seminal Vesicle |
| * Skin | * Spleen | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | |

MISSING

- | | | |
|-------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|---------------------------|-----------------|

OBSERVATIONS

- | | | | |
|------------------------|-----------------------------|---------------------------|--------------------------|
| * Epididymis | | Hypospermia | Mild |
| * Kidney | Renal Tubule | Cyst | |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hemorrhage | Minimal |
| | Alveolus | Hyperplasia | Moderate |
| | Alv Bron, Epithelium | Infiltration Cellular | Histiocyte, Moderate |
| | Alveolus | Karyomegaly | Moderate |
| | Bronchiole, Epithelium | Proteinosis | Mild |
| | [Hyperplasia TGLs = 2-4] | Vacuolization Cytoplasmic | Marked |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | Respirat Epith | Inflammation | Chronic Active, Moderate |
| | | Metaplasia | Squamous, Mild |
| * Stomach, Forestomach | | Hyperkeratosis | Mild |
| * Testes | Germinal Epith | Degeneration | Moderate |
| | [Degeneration TGLs = 1-8] | | |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1008 TMT: 11
DOSE: 10 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53163

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Mediastinal
- * Preputial Gland
- * Skin
- * Thymus
- * Adrenal Medulla
- * Epididymis
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mesenteric
- * Prostate
- * Spleen
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Pancreas
- * Salivary Glands
- * Stomach, Forestomach
- * Trachea
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Pituitary Gland
- * Seminal Vesicle
- * Stomach, Glandular
- * Urinary Bladder

MISSING

- * Lymph Node, Mandibular
- * Mammary Gland
- * Parathyroid Gland

OBSERVATIONS

- * Larynx
- * Lung
- [Hyperplasia TGLs = 2-4]
- * Lymph Node, Bronchial
- * Nose
- * Testes
- [Degeneration TGLs = 1-8]
- Metaplasia
- Hemorrhage
- Hyperplasia
- Infiltration Cellular
- Karyomegaly
- Proteinosis
- Vacuolization Cytoplasmic
- Erythrophagocytosis
- Atrophy
- Degeneration
- Degeneration
- Inflammation
- Metaplasia
- Degeneration
- Squamous, Mild
- Minimal
- Moderate
- Histiocyte, Moderate
- Moderate
- Mild
- Marked
- Minimal
- Moderate
- Moderate
- Mild
- Chronic Active, Mild
- Squamous, Mild
- Moderate

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1009 TMT: 11
DOSE: 10 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53164

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Epididymis | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Liver |
| * Lymph Node, Bronchial | * Lymph Node, Mesenteric | * Pancreas | * Pituitary Gland |
| * Preputial Gland | * Prostate | * Salivary Glands | * Seminal Vesicle |
| * Skin | * Spleen | * Stomach, Forestomach | * Stomach, Glandular |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |

MISSING

- | | | | |
|--------------------------|---------------------------|-----------------|---------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Mammary Gland | * Parathyroid Gland |
|--------------------------|---------------------------|-----------------|---------------------|

OBSERVATIONS

- | | | | |
|----------------|------------------------|---------------------------|--------------------------|
| * Larynx | | Metaplasia | Squamous, Moderate |
| * Lung | | Hemorrhage | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| [Hyperplasia | TGLs = 2-4] | | |
| * Nose | | Atrophy | Moderate |
| | Turbinates | Degeneration | Moderate |
| | Olfactory Epi | Degeneration | Mild |
| | Respirat Epith | Hyperplasia | Minimal |
| | Olfactory Epi | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | | Degeneration | Moderate |
| | Germinal Epith | | |
| [Degeneration | TGLs = 1-8] | | |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1010 TMT: 11
DOSE: 10 mg/m3

SEX: Male
DISP: Terminal Sacrifice

DAY ON TEST: 95
HISTO: 53165

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Liver | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Pancreas | * Parathyroid Gland |
| * Pituitary Gland | * Preputial Gland | * Prostate | * Salivary Glands |
| * Seminal Vesicle | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Urinary Bladder |

MISSING

- | | |
|-------------------------|-----------------|
| * Lymph Node, Bronchial | * Mammary Gland |
|-------------------------|-----------------|

OBSERVATIONS

- | | | | |
|--------------|-----------------------------|---------------------------|--------------------------|
| * Epididymis | | Hypospermia | Mild |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 2-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | Olfactory Epi | Hyperplasia | Minimal |
| | | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| * Testes | Germinal Epith | Degeneration | Moderate |
| | [Degeneration TGLs = 1-8] | | |
| * Trachea | | Erosion | Minimal |

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 101 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53146

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Larynx | * Liver |
| * Lung | * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mesenteric |
| * Mammary Gland | * Nose | * Ovary | * Pancreas |
| * Parathyroid Gland | * Pituitary Gland | * Salivary Glands | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | |

MISSING

- | | |
|------------------|---------------------------|
| * Clitoral Gland | * Lymph Node, Mediastinal |
|------------------|---------------------------|

OBSERVATIONS

- | | | | |
|----------|-------------|--------------|---------|
| * Uterus | Endometrium | Inflammation | Minimal |
|----------|-------------|--------------|---------|

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 102 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53147

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Nose
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

- * Adrenal Medulla
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mandibular
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder

- * Bone
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Pancreas
- * Skin
- * Thymus
- * Uterus

- * Bone Marrow
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Mammary Gland
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland

MISSING

- * Clitoral Gland

- * Lymph Node, Bronchial

- * Lymph Node, Mediastinal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 103 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53148

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lung
- * Nose
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea
- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mandibular
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Larynx
- * Lymph Node, Mesenteric
- * Pancreas
- * Skin
- * Thymus
- * Uterus
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Mammary Gland
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mediastinal

OBSERVATIONS

* Kidney Nephropathy Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 104 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53149

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | Blood Vessel | * Bone |
| * Bone Marrow | * Brain | * Clitoral Gland | * Esophagus |
| * Eye | * Gallbladder | * Harderian Gland | * Heart |
| * Intestine Large, Cecum | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney |
| * Larynx | * Lung | * Lymph Node, Bronchial | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Mammary Gland | * Nose | * Ovary |
| * Pancreas | * Parathyroid Gland | * Pituitary Gland | * Salivary Glands |
| * Skin | * Spleen | * Stomach, Forestomach | * Stomach, Glandular |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |
| * Uterus | | | |

MISSING

- * Lymph Node, Mediastinal

OBSERVATIONS

- | | | |
|---------|--------------|-------------------------|
| * Liver | Inflammation | Chronic Active, Minimal |
|---------|--------------|-------------------------|

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 105 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53150

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Clitoral Gland | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Larynx |
| * Liver | * Lung | * Lymph Node, Bronchial | * Lymph Node, Mesenteric |
| * Mammary Gland | * Nose | * Ovary | * Pancreas |
| * Parathyroid Gland | * Pituitary Gland | * Salivary Glands | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | * Uterus |

MISSING

- | | |
|--------------------------|---------------------------|
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal |
|--------------------------|---------------------------|

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 106 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53151

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Nose
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder

- * Adrenal Medulla
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Ovary
- * Skin
- * Thymus
- * Uterus

- * Bone
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Pancreas
- * Spleen
- * Thyroid Gland

- * Bone Marrow
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

MISSING

- * Clitoral Gland

- * Lymph Node, Mandibular

- * Lymph Node, Mediastinal

- * Parathyroid Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 107 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53152

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Clitoral Gland | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Larynx |
| * Liver | * Lung | * Lymph Node, Bronchial | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Mammary Gland | * Nose | * Ovary |
| * Pancreas | * Parathyroid Gland | * Pituitary Gland | * Salivary Glands |
| * Skin | * Spleen | * Stomach, Forestomach | * Stomach, Glandular |
| * Thymus | * Thyroid Gland | * Trachea | * Urinary Bladder |
| * Uterus | | | |

MISSING

- * Lymph Node, Mediastinal

OBSERVATIONS

Pleura

Infiltration Cellular

Mixed Cell, Focal, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 108 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53153

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Mammary Gland
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland

- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Nose
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mandibular
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder

- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mesenteric
- * Pancreas
- * Skin
- * Thymus
- * Uterus

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mediastinal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 109 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53154

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Liver
- * Lymph Node, Mesenteric
- * Pancreas
- * Spleen
- * Thyroid Gland
- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lung
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Bronchial
- * Nose
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Larynx
- * Lymph Node, Mandibular
- * Ovary
- * Skin
- * Thymus
- * Uterus

MISSING

- * Lymph Node, Mediastinal
- * Parathyroid Gland

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 110 TMT: 2
DOSE: control

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53155

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Eye
* Gallbladder	* Harderian Gland	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Larynx
* Liver	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Nose	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Lymph Node, Bronchial

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 301 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53246

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 302 **TMT:** 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53247

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 303 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53248

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Mild

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 304 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53249

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 305 **TMT:** 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53250

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 306 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53251

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 307 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53252

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Minimal

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 308 **TMT:** 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53253

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Minimal

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 309 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53254

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Mild

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 310 TMT: 4
DOSE: 0.625 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53255

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Minimal

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 501 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53226

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Mild

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 502 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53227

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 503 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53228

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 504 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53229

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 505 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53230

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 506 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53231

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Minimal

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 507 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53232

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Nose

OBSERVATIONS

* Larynx

Metaplasia

Squamous, Mild

* Lung

Alveolus
Bronchiole, Epithelium

Infiltration Cellular
Vacuolization Cytoplasmic

Histiocyte, Minimal
Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 508 TMT: 6
 DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53233

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 509 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53234

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 510 TMT: 6
DOSE: 1.25 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53235

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Alveolus Bronchiole, Epithelium	Infiltration Cellular Vacuolization Cytoplasmic	Histiocyte, Minimal Minimal
* Nose	Olfactory Epi	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	701	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53206

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	702	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53207

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	703	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53208

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	704	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53209

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Olfactory Epi	Hyperplasia	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	705	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53210

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
		Inflammation	Chronic Active, Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:

706

TMT:

8

DOSE:

2.5 mg/m3

SEX:

Female

DISP:

Terminal Sacrifice

DAY ON TEST:

96

HISTO:

53211

OBSERVATIONS

* Larynx

* Lung

* Nose

Bronchiole, Epithelium

Alveolus

Bronchiole, Epithelium

Olfactory Epi

Respirat Epith

Respirat Epith

Metaplasia

Hyperplasia

Infiltration Cellular

Vacuolization Cytoplasmic

Degeneration

Degeneration

Metaplasia

Squamous, Mild

Minimal

Histiocyte, Minimal

Minimal

Minimal

Minimal

Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	707	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53212

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Mild
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 708 TMT: 8
DOSE: 2.5 mg/m3

SEX: Female
DISP: Accidentally Killed

DAY ON TEST: 4
HISTO: 53213

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Cortex	Adrenal Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Eye
Gallbladder	Harderian Gland	Heart	Intestine Large, Cecum
Intestine Large, Colon	Intestine Large, Rectum	Intestine Small, Duodenum	Intestine Small, Ileum
Intestine Small, Jejunum	Islets, Pancreatic	Kidney	Liver
Lymph Node, Bronchial	Lymph Node, Mandibular	Lymph Node, Mesenteric	Mammary Gland
Ovary	Pancreas	Parathyroid Gland	Pituitary Gland
Salivary Glands	Skin	Spleen	Stomach, Forestomach
Stomach, Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Lymph Node, Mediastinal

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Arteriole	Thrombosis	Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 709 TMT: 8
DOSE: 2.5 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53214

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Metaplasia	Squamous, Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	710	TMT:	8	SEX:	Female	DAY ON TEST:	96
		DOSE:	2.5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53215

OBSERVATIONS

* Larynx		Metaplasia	Squamous, Minimal
* Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
	Bronchiole, Epithelium	Vacuolization Cytoplasmic	Minimal
* Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Degeneration	Minimal

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	901	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53186

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Minimal
* Lung		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Moderate
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Moderate
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	902	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53187

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Moderate
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	903	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53188

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Alv Bron, Epithelium	Karyomegaly	Moderate
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Moderate
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Minimal
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	904	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53189

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Minimal
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinates	Atrophy	Moderate
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Moderate
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	905	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53190

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Minimal
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinates	Atrophy	Moderate
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	906	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53191

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinates	Atrophy	Minimal
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Moderate
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	907	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53192

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Alv Bron, Epithelium	Karyomegaly	Mild
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Minimal
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	908	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53193

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Minimal
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Moderate
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Mild
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	909	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53194

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Mild
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Mild
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Minimal
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Moderate
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	910	TMT:	10	SEX:	Female	DAY ON TEST:	96
		DOSE:	5 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53195

OBSERVATIONS

* Larynx			Metaplasia	Squamous, Mild
* Lung			Hemorrhage	Minimal
		Bronchiole, Epithelium	Hyperplasia	Mild
		Alveolus	Infiltration Cellular	Histiocyte, Mild
		Alv Bron, Epithelium	Karyomegaly	Mild
		Alveolus	Proteinosis	Minimal
		Bronchiole, Epithelium	Vacuolization Cytoplasmic	Moderate
	[Hyperplasia	TGLs = 1-4]		
* Nose		Turbinate	Atrophy	Mild
		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Mild
			Inflammation	Chronic Active, Moderate
		Respirat Epith	Metaplasia	Squamous, Mild

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1101 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53166

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Clitoral Gland | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Liver |
| * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric |
| * Mammary Gland | * Ovary | * Pancreas | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

MISSING

- * Parathyroid Gland

OBSERVATIONS

- | | | | |
|----------|----------------------------|---------------------------|----------------------|
| * Larynx | | Metaplasia | Squamous, Moderate |
| * Lung | | Emphysema | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Minimal |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinate | Atrophy | Mild |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1102 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53167

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Adrenal Medulla
- * Bone Marrow
- * Brain
- * Eye
- * Gallbladder
- * Intestine Large, Cecum
- * Intestine Large, Colon
- * Intestine Small, Ileum
- * Intestine Small, Jejunum
- * Liver
- * Lymph Node, Mandibular
- * Ovary
- * Pancreas
- * Salivary Glands
- * Skin
- * Stomach, Glandular
- * Thymus
- * Urinary Bladder
- * Blood Vessel
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mesenteric
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mediastinal

OBSERVATIONS

- * Larynx
 - * Lung
 - * Nose
 - * Uterus
- [Hyperplasia TGLs = 1-4]
- | | | | |
|--|------------------------|---------------------------|--------------------------|
| | Bronchiole, Epithelium | Metaplasia | Squamous, Moderate |
| | Alveolus | Hyperplasia | Moderate |
| | Alv Bron, Epithelium | Infiltration Cellular | Histiocyte, Moderate |
| | Alveolus | Karyomegaly | Moderate |
| | Bronchiole, Epithelium | Proteinosis | Mild |
| | | Vacuolization Cytoplasmic | Marked |
| | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Mild |
| | Respirat Epith | Degeneration | Minimal |
| | | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |
| | Endometrium | Inflammation | Minimal |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1103 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53168

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Liver | * Lymph Node, Bronchial | * Lymph Node, Mesenteric |
| * Mammary Gland | * Ovary | * Pancreas | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Urinary Bladder | * Uterus |

MISSING

- | | | | |
|------------------|--------------------------|---------------------------|---------------------|
| * Clitoral Gland | * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Parathyroid Gland |
| * Thyroid Gland | | | |

INSUFFICIENT TISSUE

- * Trachea

OBSERVATIONS

- | | | | |
|----------|----------------------------|---------------------------|----------------------|
| * Kidney | | Nephropathy | Minimal |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Hemorrhage | Minimal |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinates | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |

* PROTOCOL REQUIRED TISSUE

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1104 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53169

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Mandibular
- * Pancreas
- * Skin
- * Thymus
- * Uterus
- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mesenteric
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder

MISSING

- * Lymph Node, Bronchial
- * Lymph Node, Mediastinal

OBSERVATIONS

- * Larynx
 - * Lung
 - Bronchiole, Epithelium
 - Alveolus
 - Alv Bron, Epithelium
 - Alveolus
 - Bronchiole, Epithelium
 - * Nose
 - Turbinate
 - Olfactory Epi
 - Respirat Epith
 - Respirat Epith
- [Hyperplasia TGLs = 1-4]
- Metaplasia
 - Hyperplasia
 - Infiltration Cellular
 - Karyomegaly
 - Proteinosis
 - Vacuolization Cytoplasmic
 - Atrophy
 - Degeneration
 - Degeneration
 - Inflammation
 - Metaplasia
- Squamous, Mild
 - Moderate
 - Histiocyte, Moderate
 - Moderate
 - Mild
 - Marked
 - Moderate
 - Moderate
 - Mild
 - Chronic Active, Moderate
 - Squamous, Mild

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1105 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53170

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Clitoral Gland | * Esophagus | * Eye |
| * Gallbladder | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Liver | * Lymph Node, Bronchial |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland | * Ovary |
| * Pancreas | * Pituitary Gland | * Salivary Glands | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | * Uterus |

MISSING

- | | |
|---------------------------|---------------------|
| * Lymph Node, Mediastinal | * Parathyroid Gland |
|---------------------------|---------------------|

OBSERVATIONS

- | | | | |
|-------------------|----------------------------|---------------------------|--------------------------|
| * Harderian Gland | | Hemorrhage | Minimal |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Minimal |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1106 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53171

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Liver | * Lymph Node, Bronchial | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric | * Mammary Gland | * Ovary | * Pancreas |
| * Parathyroid Gland | * Pituitary Gland | * Salivary Glands | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | * Uterus |

MISSING

- | | |
|------------------|---------------------------|
| * Clitoral Gland | * Lymph Node, Mediastinal |
|------------------|---------------------------|

OBSERVATIONS

- | | | | |
|----------|----------------------------|---------------------------|----------------------|
| * Kidney | | Nephropathy | Minimal |
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM: 1107 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53172

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Bronchial
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder
- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mediastinal
- * Pancreas
- * Skin
- * Thymus
- * Uterus
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mesenteric
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

MISSING

- * Lymph Node, Mandibular

OBSERVATIONS

- * Larynx
 - * Lung
 - Bronchiole, Epithelium
 - Alveolus
 - Alv Bron, Epithelium
 - Alveolus
 - Bronchiole, Epithelium
 - [Hyperplasia TGLs = 1-4]
 - * Nose
 - Turbinat
 - Olfactory Epi
 - Respirat Epith
 - Respirat Epith
- Metaplasia
Hyperplasia
Infiltration Cellular
Karyomegaly
Proteinosis
Vacuolization Cytoplasmic
- Squamous, Mild
Moderate
Histiocyte, Moderate
Moderate
Mild
Marked
- Atrophy
Degeneration
Degeneration
Inflammation
Metaplasia
- Moderate
Moderate
Mild
Chronic Active, Mild
Squamous, Mild

TDMS No. 60311 - 04

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

COBALT

CAS Number: 7440-48-4

Date Report Requested: 06/18/2007

Time Report Requested: 13:56:10

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

Lab: BNW

ANIMAL NUM:	1108	TMT:	12	SEX:	Female	DAY ON TEST:	96
		DOSE:	10 mg/m3	DISP:	Terminal Sacrifice	HISTO:	53173

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Esophagus | * Eye | * Gallbladder |
| * Harderian Gland | * Heart | * Intestine Large, Cecum | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic | * Kidney | * Liver | * Lymph Node, Bronchial |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric | * Mammary Gland | * Ovary |
| * Pancreas | * Pituitary Gland | * Salivary Glands | * Skin |
| * Spleen | * Stomach, Forestomach | * Stomach, Glandular | * Thymus |
| * Thyroid Gland | * Trachea | * Urinary Bladder | * Uterus |

MISSING

- | | | |
|------------------|---------------------------|---------------------|
| * Clitoral Gland | * Lymph Node, Mediastinal | * Parathyroid Gland |
|------------------|---------------------------|---------------------|

OBSERVATIONS

- | | | | |
|----------|----------------------------|---------------------------|--------------------------|
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Emphysema | Mild |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Moderate |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Moderate |
| | Respirat Epith | Metaplasia | Squamous, Mild |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1109 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53174

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- * Adrenal Cortex
- * Brain
- * Gallbladder
- * Intestine Large, Colon
- * Intestine Small, Jejunum
- * Lymph Node, Bronchial
- * Ovary
- * Salivary Glands
- * Stomach, Glandular
- * Urinary Bladder
- * Adrenal Medulla
- * Clitoral Gland
- * Harderian Gland
- * Intestine Large, Rectum
- * Islets, Pancreatic
- * Lymph Node, Mediastinal
- * Pancreas
- * Skin
- * Thymus
- * Uterus
- * Bone
- * Esophagus
- * Heart
- * Intestine Small, Duodenum
- * Kidney
- * Lymph Node, Mesenteric
- * Parathyroid Gland
- * Spleen
- * Thyroid Gland
- * Bone Marrow
- * Eye
- * Intestine Large, Cecum
- * Intestine Small, Ileum
- * Liver
- * Mammary Gland
- * Pituitary Gland
- * Stomach, Forestomach
- * Trachea

MISSING

- * Lymph Node, Mandibular

OBSERVATIONS

- * Larynx
 - * Lung
 - * Nose
- | | | | |
|--|----------------------------|---------------------------|----------------------|
| | | | |
| | Bronchiole, Epithelium | Metaplasia | Squamous, Mild |
| | Alveolus | Hemorrhage | Minimal |
| | Alv Bron, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Bronchiole, Epithelium | Karyomegaly | Moderate |
| | [Hyperplasia TGLs = 1-4] | Proteinosis | Mild |
| | | Vacuolization Cytoplasmic | Marked |
| | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |

TDMS No. 60311 - 04

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Date Report Requested: 06/18/2007

Test Type: 90-DAY

COBALT

Time Report Requested: 13:56:10

Route: RESPIRATORY EXPOSURE WHOLE BODY

CAS Number: 7440-48-4

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

Species/Strain: MICE/B6C3F1

Lab: BNW

ANIMAL NUM: 1110 TMT: 12
DOSE: 10 mg/m3

SEX: Female
DISP: Terminal Sacrifice

DAY ON TEST: 96
HISTO: 53175

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- | | | | |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex | * Adrenal Medulla | * Bone | * Bone Marrow |
| * Brain | * Clitoral Gland | * Esophagus | * Eye |
| * Gallbladder | * Harderian Gland | * Heart | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic | * Kidney | * Liver |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Mammary Gland |
| * Ovary | * Pancreas | * Parathyroid Gland | * Pituitary Gland |
| * Salivary Glands | * Skin | * Spleen | * Stomach, Forestomach |
| * Stomach, Glandular | * Thymus | * Thyroid Gland | * Trachea |
| * Urinary Bladder | * Uterus | | |

INSUFFICIENT TISSUE

- * Lymph Node, Bronchial

OBSERVATIONS

- | | | | |
|----------|----------------------------|---------------------------|----------------------|
| * Larynx | | Metaplasia | Squamous, Mild |
| * Lung | | Emphysema | Moderate |
| | Bronchiole, Epithelium | Hyperplasia | Moderate |
| | Alveolus | Infiltration Cellular | Histiocyte, Moderate |
| | Alv Bron, Epithelium | Karyomegaly | Moderate |
| | Alveolus | Proteinosis | Mild |
| | Bronchiole, Epithelium | Vacuolization Cytoplasmic | Marked |
| | [Hyperplasia TGLs = 1-4] | | |
| * Nose | Turbinate | Atrophy | Moderate |
| | Olfactory Epi | Degeneration | Moderate |
| | Respirat Epith | Degeneration | Mild |
| | | Inflammation | Chronic Active, Mild |
| | Respirat Epith | Metaplasia | Squamous, Mild |

*** END OF REPORT ***