

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Ticeram
Product Number: 0601, 0612
Synonyms: Chrome Cobalt Alloy - Ticeram
Chemical Name: Chrome Cobalt Alloy
Chemical Family: Metal Alloy
CAS Number: Blend

Company Identification

Ticonium Co., Div. of CMP Industries LLC
413 North Pearl Street
Albany, NY 12207 USA
(518)-434-3147 (For product information)
(800)-833-2343 (For emergencies)
1-800-424-9300 or 1-703-527-3887 (CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>
COBALT	50.0 - 70.0 %	7440-48-4
CHROMIUM	25.0 - 35.0 %	7440-47-3
MOLYBDENUM	3.0 - 5.0 %	7439-98-7
SILICON	1.0 - 2.0 %	7440-21-3

(See Section 8 for exposure guidelines)

(See Section 15 for regulatory information)

HAZARDS DISCLOSURE

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

As defined under Sara 311 and 312, this product contains materials that are acute, chronic hazards.



3. HAZARDS IDENTIFICATION

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***** EMERGENCY OVERVIEW *****
*
*                               WARNING
*
* Cancer hazard.
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*****
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POTENTIAL HEALTH EFFECTS

EYE:

Causes eye irritation.

SKIN:

May cause skin irritation.

INHALATION:

Dust may be slightly irritating to respiratory tract.

INGESTION:

Ingestion is not considered a potential route of exposure.

CHRONIC EFFECTS:

Persons with with impaired pulmonary function should not be subjected to excessive airborne concentrations.

REPRODUCTIVE HAZARDS:

None.

CARCINOGENICITY INFORMATION:

Chromium and Cobalt are listed by IARC and/or NTP as carcinogens.

MEDICAL CONDITIONS AGRAVATED BY EXPOSURE:

Individuals with impaired pulmonary function should not be subjected to excessive airborne concentrations.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

Immediately flush eyes with plenty of water.

INHALATION FIRST AID:

Remove to fresh air. If breathing is difficult, remove to fresh air and provide oxygen. Seek medical attention.



(section 4 continued)

INGESTION FIRST AID:

Swallow large amounts of water and induce vomiting. Obtain medical help.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

COC Flash Point: N/A

Autoignition Temperature: N/A

FLAMMABLE LIMITS IN AIR

LEL: N/A

UEL: N/A

FLAMMABLE PROPERTIES:

Not Flammable.

EXTINGUISHING MEDIA:

Use extinguishing media appropriate for surrounding fire.

FIRE & EXPLOSION HAZARDS:

None.

COMBUSTION PRODUCTS:

None.

6. ACCIDENTAL RELEASE MEASURES

LARGE SPILLS PROCEDURE:

In solid form this material poses no special clean up problems. Remove dust by vacuuming or wet sweeping to avoid air contamination. Protective clothing not normally required during clean up procedures.

SMALL SPILLS PROCEDURE:

Same as large spill.

7. HANDLING AND STORAGE

No information available.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

EYE / FACE PROTECTION REQUIREMENTS:

Safety glasses are recommended to avoid contact with eyes.

SKIN PROTECTION REQUIREMENTS:

Wear leather gloves to minimize skin contamination.

RESPIRATORY PROTECTION REQUIREMENTS:

Use a NIOSH approved organic vapor respirator when exposed to vapor from heated material.

EXPOSURE GUIDELINES:

COBALT

OSHA PEL: .1 mg/m³
OSHA TWA: .05 mg/m³

CHROMIUM

OSHA PEL: 1 mg/m³
OSHA TWA: .05 mg/m³

MOLYBDENUM

OSHA PEL: 15 mg/m³
OSHA TWA: 5 mg/m³

SILICON

OSHA PEL: 15 mg/m³
OSHA TWA: 10 mg/m³

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Ingot
COLOR: Silver
ODOR: None
BOILING POINT: 2750 F
SOLUBILITY IN WATER: Insoluble
SPECIFIC GRAVITY: 8.2 (Water = 1)
MELTING/FREEZING POINT ...: 2372-2498 F

10. STABILITY AND REACTIVITY

STABILITY:

Stable.

POLYMERIZATION:



(section 10 continued)

Product will not undergo polymerization.

INCOMPATIBILITY WITH OTHER MATERIALS:

Mineral acids and strong oxidizing agents.

DECOMPOSITION:

Metal oxides may be generated from melting.

11. TOXICOLOGICAL INFORMATION

CHRONIC EFFECTS /:

May cause respiratory disease.

COBALT

Test Code: Oral LD50

Species: Rat

Results: 1500 mg/kg

CHROMIUM

Test Code: Implant TDLO

Species: Rat

Results: 1200 micrograms/kg of body weight administered
intermittently over a six week period.

MOLYBDENUM

Test Code: Intraperitoneal LD50

Species: Rat

Results: 114 mg/kg

12. ECOLOGICAL INFORMATION

MISCELLANEOUS:

Dike and contain spill with absorbent material such as clay or commercial absorbent.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Dispose of waste material in accordance with all local, state/provincial, and national requirements.



14. TRANSPORTATION INFORMATION

PRODUCT LABEL: Ticeram
D.O.T. SHIPPING NAME: N/A
TECHNICAL SHIPPING NAME ...: N/A
D.O.T. HAZARD CLASS: N/A
UN NUMBER: N/A

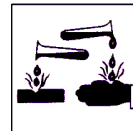
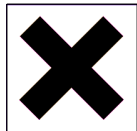
15. REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01 = SARA 313	02 = CA Proposition 65
03 = SARA 302/304	04 = CERCLA 302.4
05 = ACGIH TWA	06 = ACGIH STEL
07 = ACGIH CALC TLV	08 = OSHA PEL
09 = CANADIAN WHMIS	10 = OSHA Ceiling

EEC Symbols and Indications of Danger:

Irritant (Xi), Corrosive (C)



R-Phrases:

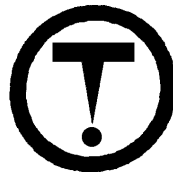
R36/37/38 - Irritating to eyes, respiratory system, and skin.

S-Phrases:

S3 - Keep in a cool place.

WHMIS Hazard Symbols:

Class D2 - Materials Causing Other Toxic Effects



Canadian Disclosure List

COBALT (7440-48-4)
CHROMIUM (7440-47-3)
MOLYBDENUM (7439-98-7)

SARA Title III - Section 313

COBALT (7440-48-4)
CHROMIUM (7440-47-3)



(section 15 continued)

CERCLA Hazardous Substances

CHROMIUM (7440-47-3) -- RQ 5000 lb

RCRA Hazardous Substances

CHROMIUM (7440-47-3) -- RCRA Code: D007

Title V

COBALT (7440-48-4)
CHROMIUM (7440-47-3)

CA Proposition 65

COBALT (7440-48-4)

SC Toxic Air Pollutants List

CHROMIUM (7440-47-3)
MOLYBDENUM (7439-98-7)
SILICON (7440-21-3)

16. OTHER INFORMATION

REASON FOR ISSUE: Update
PREPARED BY: R. Lane
APPROVED BY: Abdul Khan
TITLE: Q. C. Manager
APPROVAL DATE: April 17, 2003
SUPERCEDES DATE: May 30, 2002
MSDS NUMBER: 0601 0612
RTN NUMBER: 00000306 (Official Copy)

ABBREVIATIONS USED IN THIS MSDS:

TLV - THRESHOLD LIMIT VALUE	TWA - Time Weighted Average
STEL - SHORT TERM EXPOSURE LIMIT	TPQ - Threshold Planning Quantity
RQ - REPORTABLE QUANTITY	PEL - Permissible Exposure Limit
C - CEILING LIMIT	CAS - Chemical Abstract Service Number
NDA - NO DATA AVAILABLE	N/A - Not Applicable or Not Available

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END OF MSDS

