

Safety Data Sheet

Material Name: CHROMIUM AS METAL

SDS ID: 00224543

*** Section 1 - PRODUCT AND COMPANY IDENTIFICATION ***

Material Name: CHROMIUM AS METAL

Manufacturer Information

CMC Cometals
CONTACT:
2050 Center Avenue, Suite 250
Ft. Lee, NJ 07024
Mfg Contact: CMC Cometals

EMERGENCY

Chemical Family

metal

Synonyms

CHROME; CHROMIUM ELEMENT; CHROMIUM METAL; METALLIC CHROMIUM; Cr; RTECS: GB4200000

*** Section 2 - HAZARDS IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: gray

Physical Form: cast metal

Odor: odorless

Physical Hazards: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation

Long Term: no information on significant adverse effects

Skin

Short Term: irritation

Long Term: no information on significant adverse effects

Eye

Short Term: irritation

Long Term: no information on significant adverse effects

Ingestion

Short Term: no information on significant adverse effects

Long Term: no information is available

*** Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent	Symbol(s)	Risk Phrase(s)
7440-47-3	CHROMIUM AS METAL	100.0	---	R:64
	231-157-5			

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Chromium compounds.

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*** Section 4 - FIRST AID MEASURES ***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

Antidote

dimercaprol, intramuscular.

*** Section 5 - FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Negligible fire and explosion hazard in bulk form.

Extinguishing Media

dolomite, dry powder for metal fires, dry sand, graphite, soda ash, sodium chloride

Do not get water directly on material.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

*** Section 6 - ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Large spills: Collect spilled material in appropriate container for disposal. Avoid generating dust. Clean up residue with a high-efficiency particulate filter vacuum. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

*** Section 7 - HANDLING AND STORAGE ***

Handling Procedures

Use methods to minimize dust.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Store in a tightly closed container.

Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances.

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*** Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Exposure Limits

CHROMIUM AS METAL (7440-47-3)

ACGIH: 0.5 mg/m3 TWA

NIOSH: 0.5 mg/m3 TWA

250 mg/m3 IDLH

Europe: 2 mg/m3 TWA

OSHA (US): 1 mg/m3 TWA

Mexico: 0.5 mg/m3 TWA

IDLH

250 mg/m3

Ventilation

Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Chromium (Cr)

2.5 mg/m3

Any quarter-mask respirator.

5 mg/m3

Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any supplied-air respirator.

12.5 mg/m3

Any supplied-air respirator operated in a continuous-flow mode.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

25 mg/m3

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

250 mg/m3

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions -

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Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying, full-facepiece respirator equipped with an N100, R100, or P100 filter.

Any appropriate escape-type, self-contained breathing apparatus.

*** Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ***

Physical State:	Solid	Appearance:	lustrous
Color:	gray	Physical Form:	cast metal
Odor:	odorless	Odor Threshold:	Not available
Melting Point:	1837 - 1877 °C	Boiling Point:	2672 °C
LEL:	0.230 g/L	Vapor Pressure:	1 mmHg @ 1616 °C
Vapor Density (air = 1):	Not applicable	Density:	Not available
Specific Gravity (water = 1):	7.20 @ 28 °C	Water Solubility:	insoluble
Coeff. Water/Oil Dist:	Not available	Molecular Weight:	51.996
Molecular Formula:	Cr		

Solvent Solubility

Soluble: dilute sulfuric acid, hydrochloric acid

Insoluble: nitric acid, aqua regia

*** Section 10 - STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid generating dust. Avoid heat, flames, sparks and other sources of ignition.

Materials to Avoid

bases, oxidizing materials, halogens, peroxides, metals

CHROMIUM:

ALKALI CARBONATES: Attacked.

ALKALIES (CAUSTIC): Attacked.

AMMONIUM NITRATE (FUSED): Violent or explosive reaction.

BROMINE PENTAFLUORIDE: Violent reaction and possible ignition.

HYDROGEN PEROXIDE: Violent decomposition reaction.

LITHIUM (MOLTEN): Vigorous reaction at elevated temperatures.

NITROGEN OXIDE: Incandescent reaction.

OXIDIZERS (STRONG): Fire and explosion hazard.

POTASSIUM CHLORATE (FUSED): Vigorous incandescent reaction.

SULPHUR DIOXIDE: Incandescent reaction.

Decomposition Products

oxides of chromium

Thermal decomposition products: chromic oxide.

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Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 - TOXICOLOGICAL INFORMATION ***

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

CHROMIUM AS METAL (7440-47-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 49 [1990]; Supplement 7 [1987] (Group 3 (not classifiable))

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes the following endpoints:

CHROMIUM AS METAL (7440-47-3)

75 mg/kg implant rabbit TDLo; 1200 ug/kg implant rat TDLo (6 week(s)); 2160 ug/kg intravenous rat TDLo (6 week(s))

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes the following endpoints:

CHROMIUM AS METAL (7440-47-3)

DNA damage human lung 1 umol/L

Additional Data

May cross the placenta. May be excreted in breast milk.

HEALTH EFFECTS

Inhalation - Acute Exposure

CHROMIUM: High concentrations of dusts or fumes may cause irritation.

Inhalation - Chronic Exposure

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to result in ulceration and perforation of the nasal septum, irritation of the throat and lower respiratory tract, less commonly in gastrointestinal disturbances, blood changes, pulmonary sensitization, pulmonary pneumoconiosis or fibrosis, and rarely liver effects. These effects have not been reported from exposure to the metal per se.

Skin Contact - Acute Exposure

CHROMIUM: Contact with dusts or powder may cause irritation.

Skin Contact - Chronic Exposure

CHROMIUM: Repeated or prolonged exposure to various chromium compounds has been reported to cause various types of dermatitis, including eczema, "chrome holes", sensitization, and, in contact with damaged skin, kidney damage. These effects have not been reported from exposure to the metal per se.

Eye Contact - Acute Exposure

CHROMIUM: Contact with dusts or powders may cause irritation.

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Eye Contact - Chronic Exposure

CHROMIUM: Repeated or prolonged exposure to some chromium compounds may cause conjunctivitis and lacrimation. These effects have not been reported from exposure to the metal per se.

Ingestion - Acute Exposure

CHROMIUM: Chromium metal is poorly absorbed by the intestinal tract. Absorption of sufficient amounts of some chromium compounds may result in dizziness, intense thirst, abdominal pain, vomiting, shock, oliguria or anuria, and uremia, which may be fatal.

Ingestion - Chronic Exposure

CHROMIUM: No data available.

*** Section 12 - ECOLOGICAL INFORMATION ***

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

*** Section 13 - DISPOSAL CONSIDERATIONS ***

Disposal Methods

Dispose in accordance with all applicable regulations. Hazardous Waste Number(s): D007. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 5.0 mg/L.

Component Waste Numbers

CHROMIUM AS METAL (7440-47-3)

RCRA: 5.0 mg/L regulatory level

*** Section 14 - TRANSPORT INFORMATION ***

US DOT Information

Shipping Name: RQ Environmentally hazardous substances, solid, n.o.s. (Contains: CHROMIUM)

UN/NA #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

TDG Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

ADR Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

RID Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

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IATA Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

ICAO Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

IMDG Information

Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Contains: CHROMIUM)

UN #: UN3077 **Hazard Class:** 9 **Packing Group:** III

* * * Section 15 - REGULATORY INFORMATION * * *

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

CHROMIUM AS METAL (7440-47-3)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No **Chronic Health:** No **Fire:** No **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
CHROMIUM AS METAL	7440-47-3	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

Canada

Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

CHROMIUM AS METAL (7440-47-3)

0.1 %

Germany Water Classification

CHROMIUM AS METAL (7440-47-3)

Number 1443, not considered hazardous to water

EU Marking and Labelling

Risk Phrases

R64 May cause harm to breastfed babies.

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Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
CHROMIUM AS METAL	7440-47-3	Yes	DSL	EIN	Yes	Yes	No	Yes	Yes	Yes

* * * Section 16 - OTHER INFORMATION * * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Full text of R phrases in Section 3

R64 May cause harm to breastfed babies.

Other Information

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End of Sheet 00224543