

Chromium
05000

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Chromium

Catalog Numbers:

S79965-1, S79965, S79965-2, S799651, S799652

Synonyms:

Chrome

Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
7440-47-3	CHROMIUM	>=99%	231-1575

Hazard Symbols: XN

Risk Phrases: 40

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: silver-gray.

Warning! May cause allergic skin reaction. Causes digestive tract irritation. May cause liver damage. May cause kidney damage. May cause lung damage. Causes eye and skin irritation. Causes severe respiratory tract irritation.

Target Organs: Liver.

Potential Health Effects

Eye:

Causes eye irritation. May cause conjunctivitis.

Skin:

Causes skin irritation. Prolonged and/or repeated contact may cause irritation and/or dermatitis. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion:

May cause irritation of the digestive tract. May cause liver damage.

Inhalation:

Causes respiratory tract irritation. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause asthma and shortness of breath. May cause headache, coughing, fever, weight

loss, and pneumoconiosis.

Chronic:

Prolonged inhalation may cause respiratory tract inflammation and lung damage.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. DO NOT use mouth-to-mouth respiration.

Notes to Physician:

Treat symptomatically and supportively.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

Evacuate area and fight fire from a safe distance. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. May burn with invisible flame. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust can be an explosion hazard when exposed to heat or flame.

Extinguishing Media:

Use dry sand or earth to smother fire. Use dry chemical to fight fire. Contact professional fire-fighters immediately.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as

Indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Isolate area and deny entry. Place under an inert atmosphere. Do not use combustible materials such as paper towels to clean up spill.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust

generation and accumulation. Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Handle under an inert atmosphere.

Storage:

Keep away from heat, sparks, and flame. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids. Keep containers tightly closed. Do not expose to air. Store under an inert atmosphere.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA-Final PELs
CHROMIUM	0.5 mg/m3	as Cr: 0.5 mg/m3	Chromium, sol.
		TWA; see	chromic,
		Appendix C for	chromous salts
		supplementary	(as Cr): 0.5
		exposure limits	mg/m3 TWA;
		as Cr: 250 mg/m3	Chromium, metal
		IDLH	and insoluble
			salts (as Cr):
			1 mg/m3 TWA

OSHA Vacated PELs:

CHROMIUM:
(as Cr): 1 mg/m3 TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Solid
Appearance: silver-gray
Odor: odorless
pH: Not available.
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Evaporation Rate: Not applicable.
Viscosity: Not applicable.
Boiling Point: 4784 deg F
Freezing/Melting Point: 3375 deg F
Autoignition Temperature: 752 deg F (400.00 deg C)
Flash Point: Not applicable.
NFPA Rating: (est.) Health: 2; Flammability: 1; Reactivity: 1
Explosion Limits, Lower: .0230oz/ft3
Upper: Not available.
Decomposition Temperature: Not available.
Solubility: Insoluble in water.
Specific Gravity/Density: 7.2 @28C
Molecular Formula: Cr
Molecular Weight: 51.996

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable under normal temperatures and pressures. Powder or liquid is pyrophoric.

Conditions to Avoid:

Incompatible materials, ignition sources, dust generation, exposure to air, acids, strong oxidants.

Incompatibilities with Other Materials:

Ammonium nitrate, hydrogen peroxide, lithium, nitric oxide, potassium chlorate, sulfur dioxide, strong oxidizers, hydrochloric acid, sulfuric acid, nitrogen oxide,

Hazardous Decomposition Products:

Toxic chromium oxide fumes.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 7440-47-3: GB4200000

LD50/LC50:

Not available.

Carcinogenicity:

CHROMIUM -

ACGIH: A4 - not classifiable as a human carcinogen

IARC: Group 3 carcinogen

Epidemiology:

Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiologic investigations on workers and experimental studies in animals. Increased incidences of respiratory cancer has been found in chromium (VI) workers. There is an increased incidence of lung cancer in industrial workers exposed to chromium (VI) compounds. Please refer to IARC volume 23 for a more detailed discussion.

Teratogenicity:

No information found.

Reproductive Effects:

No information found.

Neurotoxicity:

No information found.

Mutagenicity:

No information found.

Other Studies:

See actual entry in RTECS for complete information.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is class if as a hazardous waste.

US EPA guidelines for the classification determination are listed in 40 CFR Part Additionally, waste generators must consult state and local hazardous waste regu ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

No information available

Canadian TDG

No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 7440-47-3 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test

Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

CAS# 7440-47-3: final RQ = 5000 pounds (2270 kg) (no reporting of

release)
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7440-47-3: acute, chronic, flammable.

Section 313

This material contains CHROMIUM (CAS# 7440-47-3, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act:

CAS# 7440-47-3 listed as ** no name ** is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

CAS# 7440-47-3 is listed as a Priority Pollutant under the Clean Water Act.

CAS# 7440-47-3 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CHROMIUM can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 40 Possible risks of irreversible effects.

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 7440-47-3: No information available.

United Kingdom Occupational Exposure Limits

CAS# 7440-47-3: OES-United Kingdom, TWA 0.5 mg/m3 TWA

Canada

CAS# 7440-47-3 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of D2A, D2B.

CAS# 7440-47-3 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7440-47-3: OEL-ARAB Republic of Egypt:TWA 0.05 mg/m3

OEL-AUSTRALIA:TWA 0.05 mg/m3

OEL-BELGIUM:TWA 0.5 mg/m3

OEL-DENMARK:TWA 0.5 mg/m3

OEL-FINLAND:TWA 0.01 mg/m3

OEL-FRANCE:TWA 0.5 mg/m3

OEL-JAPAN:TWA 0.5 mg/m3

OEL-THE NETHERLANDS:TWA 0.5 mg/m3

OEL-THE PHILIPPINES:TWA 1 mg/m3

OEL-SWEDEN:TWA 0.5 mg/m3

OEL-UNITED KINGDOM:TWA 0.5 mg/m3

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 3/01/1999 Revision #4 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.
