Chromium (VI) Trioxide
04940

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

MSDS Name: Chromium (VI) Trioxide
Catalog Numbers:
S79969, S79969ACS-1, S79969ACS-2, A100 100, A100 212, A100 500, A100-100, A100-212, A100-500, A100100, A100212, A100500, A98 212, A98 500, A98-212, A98-500, A98212, A98500, S79969ACS
Synonyms:
Chromic Acid, Chromium Anhydride, Chromium(VI)Oxide
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#
1333-82-0	Chromium trioxide	100.0%	215-607-8

Hazard Symbols: T O C N
Risk Phrases: 25 35 43 8 49 50/53

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

EMERGENCY OVERVIEW
Appearance: dark red to purple.
Danger! Strong oxidizer. Contact with other material may cause a fire. Corrosive. Harmful if swallowed. Sensitizer. Causes digestive and respiratory tract burns. May cause liver and kidney damage. Causes severe eye and skin burns.
Target Organs: Kidneys, liver, respiratory system, gastrointestinal system.

Potential Health Effects
Eye:
May cause irreversible eye injury. Contact with eyes may cause severe irritation, and possible eye burns.
Skin:
May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause irritation with burning pain, itching and redness. May cause deep, penetrating ulcers of the skin. May be absorbed through damaged or abraded skin in harmful amounts. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors.
Ingestion:
Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause liver and kidney damage.
Inhalation:

May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause asthmatic attacks due to allergic sensitization of the respiratory tract.

Chronic:

Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Chronic ingestion may cause effects similar to those of acute ingestion. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors.

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

Eyes:

Get medical aid immediately. Extensive irrigation is required (at least 30 minutes).

Skin:

Get medical aid. Wash clothing before reuse. Rinse area with large amounts of water for at least 15 minutes. Destroy contaminated shoes.

Ingestion:

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:

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

Notes to Physician:

Treat symptomatically and

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

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with combustible materials may cause a fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:

Use water only! Use extinguishing media most appropriate for the surrounding fire. Cool containers with flooding quantities of water until well after fire is out. DO NOT use dry chemicals, CO2, Halon or foams.

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

General Information: Use proper personal protective equipment as indicated

in Section 8.

Spills/Leaks:

Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation. 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. Avoid contact with skin and eyes. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation. Use with adequate ventilation. Discard contaminated shoes.

Storage:

Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area.

**** 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 trioxide	0.05 mg/m3 TWA (listed under ** no name **).	as CrO3: 0.001 mg/m3 TWA; NIOSH Potential Occupational Carcinogen - see Appendix A; see Appendix C for supplementary exposure limits Potential NIOSH carcinogen; as CrO3: 15 mg/m3 IDLH (not considering	Chromium, sol. chromic, chromous salts (as Cr): 0.5 mg/m3 TWA; Chromium, metal a nd insoluble salts (as Cr): 1 mg/m3 TWA (listed under ** no name **).

OSHA Vacated PELs:

Chromium trioxide:
(as Cr): 1 mg/m3 TWA (listed under ** no name **)

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 a chemical apron. Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear a chemical apron. Wear appropriate protective gloves 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:	dark red to purple
Odor:	odorless
pH:	No information
Vapor Pressure:	Not available.
Vapor Density:	3.4
Evaporation Rate:	Neglible
Viscosity:	No information
Boiling Point:	482 deg F
Freezing/Melting Point:	385 deg F
Autoignition Temperature:	None available.
Flash Point:	250 deg C (482.00 deg F)
NFPA Rating:	(est.) Health: 3; Flammability: 0; Reactivity: 1
Explosion Limits, Lower:	Not available.
Upper:	Not available.
Decomposition Temperature:	482 F
Solubility:	Soluble in water
Specific Gravity/Density:	2.7 (Water=1)
Molecular Formula:	CrO3
Molecular Weight:	99.9942

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

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Excess heat, combustible materials, organic materials.

Incompatibilities with Other Materials:

Acetic Acid, acetic anhydride, acetone, alcohols, alkali metals, ammonia, arsenic, anthracene, benzene, bromine pentafluorine, butyric acid, camphor, chlorine trifluoride, chromous sulfide, diethyl ether, dimethyl formamide, glycerol, hydrogen sulfide, methyl alcohol, naphthalene,peroxyformic acid, phosphorus, potassium hexacyanoferrate, pyridine, selenium, sodium, sulfur, turpentine, ethyl alcohol and many hydrocarbons.

Hazardous Decomposition Products:

Irritating and toxic fumes and gases, chromium dioxide.

Hazardous Polymerization: Has not been reported.

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

RTECS#:

CAS# 1333-82-0: GB6650000

LD50/LC50:
CAS# 1333-82-0: Oral, mouse: LD50 = 127 mg/kg; Oral, rat: LD50 = 80 mg/kg.
Carcinogenicity:
Chromium trioxide -
ACGIH: A1 - confirmed human carcinogen (listed as ** undefined **
California: carcinogen; initial date 2/27/87 (listed as ** undefined *
NIOSH: occupational carcinogen
NTP: Known carcinogen
OSHA: Possible select carcinogen (listed as ** undefined **).
IARC: Group 3 carcinogen (listed as ** undefined **).
Epidemiology:
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:
Developmental abnormalities of the fetus have been reported in animals by the subcutaneous and intravenous routes.
Reproductive Effects:
Post-implantation mortality has been reported in hamsters by the intravenous route.
Neurotoxicity:
No information available.
Mutagenicity:
RTECs reports mutagenic data.
Other Studies:
None available.

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

Other
No information available.

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

Chemical waste generators must determine whether a discarded chemical is classif
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
Shipping Name: CHROMIUM TRIOXIDE, ANHYDROUS
Hazard Class: 5.1
UN Number: UN1463
Packing Group: II
Canadian TDG
Shipping Name: CHROMIUM TRIOXIDE ANHYDROUS
Hazard Class: 5.1(8)(9.2)
UN Number: UN1463

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

US FEDERAL

TSCA

CAS# 1333-82-0 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

CAS# 1333-82-0: 6/12b

TSCA Significant New Use Rule

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

SARA

Section 302 (RQ)

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 1333-82-0: acute, chronic.

Section 313

This material contains Chromium trioxide (listed as ** undefined **), 100 0%, (CAS# 1333-82-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

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

CAS# 1333-82-0 is listed as a Priority Pollutant under the Clean Water Act.

CAS# 1333-82-0 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 trioxide can be found on the following state right to know lists: California, (listed as ** no name **), New Jersey, Florida, Pennsylvania, Minnesota, (listed as ** no name **), Minnesota, (listed as ** no name **), Massachusetts.

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains Chromium trioxide, listed as ` ** undefined **', a chemical known to the state of California to cause cancer.

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: T O C N

Risk Phrases:

R 25 Toxic if swallowed.

R 35 Causes severe burns.

R 43 May cause sensitization by skin contact.

R 8 Contact with combustible material may cause fire.

R 49 May cause cancer by inhalation.

R 50/53 Very toxic to aquatic organisms; may cause

long-term adverse effects in the aquatic environment.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and/or its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Water Danger/Protection)

CAS# 1333-82-0: 3

United Kingdom Occupational Exposure Limits

CAS# 1333-82-0: OES-United Kingdom, TWA (listed as ** undefined **): 0.5 mg/m3 TWA

Canada

CAS# 1333-82-0 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of C, D1B, D2A, E.

CAS# 1333-82-0 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 1333-82-0: OEL-FINLAND;Carcinogen

OEL-FRANCE:TWA 0.05 mg/m3;STEL 0.1 mg/m3;Carcinogen

OEL-GERMANY;Carcinogen

OEL-RUSSIA:STEL 0.01 mg/m3;Skin

OEL-SWITZERLAND:TWA 0.05 mg/m3;STEL 0.1 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: 6/04/1998 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.
