

Material Safety Data Sheet

Chromium(VI) oxide, reagent ACS, 98+%

ACC# 95986

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromium(VI) oxide, reagent ACS, 98+%

Catalog Numbers: AC405230000, AC405230025, AC405235000

Synonyms: Chromic acid; Chromic anhydride; Chromium(VI) oxide; Chromium trioxide.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1333-82-0	Chromium trioxide	> 98	215-607-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: dark red to purple solid.

Danger! Strong oxidizer. Contact with other material may cause a fire. Causes digestive and respiratory tract burns. Causes severe eye and skin burns. Harmful if swallowed. May cause allergic skin reaction. May cause liver and kidney damage. Corrosive to metal.

Target Organs: Kidneys, liver, lungs, respiratory system, gastrointestinal system, eyes, skin, mucous membranes.

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 with water 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 and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

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 other material may cause 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 extinguishing media most appropriate for the surrounding fire. May require flooding with water in order to eliminate hazardous reactions since the materials generate their own oxygen.

Flash Point: 250 deg C (482.00 deg F)

Autoignition Temperature: None available.

Explosion Limits, Lower: Not available.

Upper: Not available.

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: Store in a cool, dry, well-ventilated location. Separate from combustible materials, halogens, sulfides, metals. See also NFPA 430, Code for the Storage of Liquid and Solid Oxidizers.

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/m ³ TWA (as Cr) (listed under Chromium (VI) compounds-water soluble).	0.001 mg/m ³ TWA (as Cr) 15 mg/m ³ IDLH (as Cr(VI))	none listed

OSHA Vacated PELs: Chromium trioxide: No OSHA Vacated PELs are listed for this chemical.

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 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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: Negligible

Viscosity: No information

Boiling Point: 482 deg F

Freezing/Melting Point: 385 deg F

Decomposition Temperature: 482 deg F

Solubility: Soluble.

Specific Gravity/Density: 2.7 (Water=1)

Molecular Formula: CrO₃

Molecular Weight: 99.99

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Dust generation, excess heat.

Incompatibilities with Other Materials: Metals, reducing agents, combustible materials, halogens, sulfides, pyridine, dimethyl formamide.

Hazardous Decomposition Products: Chromium fumes.

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:

CAS# 1333-82-0:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water soluble').
- **California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).
- **NTP:** Known carcinogen
- **IARC:** Group 1 carcinogen (listed as Chromium (VI) compounds).

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.

Mutagenicity: See actual entry in RTECS for complete information.

Neurotoxicity: No information found.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: Chromium trioxide lowers the pH of water.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CHROMIUM TRIOXIDE, ANHYDROUS	CHROMIUM TRIOXIDE ANHYDROUS
Hazard Class:	5.1	5.1(8)
UN Number:	UN1463	UN1463
Packing Group:	II	II

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: Section 6 (see 40 CFR 749.68, see also 1333-83-0)

TSCA Significant New Use Rule

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

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

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 Chromium (VI) compounds), > 98%, (CAS# 1333-82-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

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.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

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

STATE

CAS# 1333-82-0 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, (listed as Chromium

(VI) compounds- water soluble), Minnesota, (listed as Chromium (VI) compounds), Massachusetts.

California Prop 65

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 'Chromium (VI) compounds', 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 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 53 Avoid exposure - obtain special instructions before use.
- S 60 This material and 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

Canada - DSL/NDSL

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

Canada - WHMIS

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

Canadian Ingredient Disclosure List

CAS# 1333-82-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/02/1998

Revision #4 Date: 10/05/2004

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 event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.