

Material Safety Data Sheet

Chromosulfuric acid

ACC# 97661

Section 1 - Chemical Product and Company Identification

MSDS Name: Chromosulfuric acid
Catalog Numbers: AC295510000, AC295510010, AC295510025
Synonyms: Dichromate-sulfuric acid mixture.

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
7664-93-9	Sulfuric acid	92	231-639-5
7732-18-5	Water	6.7	231-791-2
1333-82-0	Chromium trioxide (CrO ₃)	1.3	215-607-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: red-brown liquid.

Danger! Causes eye and skin burns. Causes digestive and respiratory tract burns. Strong oxidizer. Contact with other material may cause a fire. May cause allergic skin reaction. May cause cancer by inhalation.

Target Organs: Kidneys, liver, respiratory system.

Potential Health Effects

Eye: Causes severe eye burns. May cause permanent corneal opacification. May cause chemical conjunctivitis and corneal damage.

Skin: May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes severe burns with delayed tissue destruction. May be harmful if absorbed through the skin. Chrome ulcers, penetrating lesions of the skin, occur chiefly on the hand and forearm where there has been a break in the epidermis. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May be harmful if swallowed. May cause burns to the gastrointestinal tract. May cause systemic effects. May cause nausea, vomiting, and diarrhea, possibly with blood.

Inhalation: Causes chemical burns to the respiratory tract. Vapor harmful. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

Chronic: May cause liver and kidney damage. Effects may be delayed. Potential cancer hazard.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately. Wash mouth out with water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

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. Use water with caution and in flooding amounts. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Some oxidizers may react explosively with hydrocarbons(fuel). May accelerate burning if involved in a fire. Containers may explode when heated.

Extinguishing Media: Use foam, dry chemical, or carbon dioxide. DO NOT USE WATER! Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - Handling and Storage

Handling: Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes.

Storage: Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a cool, dry place. Keep container closed when not in use. 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
Sulfuric acid	0.2 mg/m ³ TWA (thoracic fraction)	1 mg/m ³ TWA 15 mg/m ³ IDLH	1 mg/m ³ TWA
Water	none listed	none listed	none listed
Chromium trioxide (CrO ₃)	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
Potassium dichromate	0.05 mg/m ³ TWA (as Cr) (listed under Chromium (VI) compounds-water soluble).	0.001 mg/m ³ TWA (as Cr) (listed under Chromates).15 mg/m ³ IDLH (as Cr(VI)) (listed under Chromates).	0.1 mg/m ³ Ceiling (listed under Chromates).
Chromosulfuric acid	0.05 mg/m ³ TWA (as Cr) (listed under Chromium (VI) compounds-water soluble).	none listed	none listed

OSHA Vacated PELs: Sulfuric acid: 1 mg/m³ TWA Water: No OSHA Vacated PELs are listed for this chemical. Chromium trioxide (CrO₃): No OSHA Vacated PELs are listed for this chemical. Potassium dichromate: No OSHA Vacated PELs are listed for this chemical. Chromosulfuric acid: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate clothing 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: Liquid

Appearance: red-brown

Odor: Odorless.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 5.11

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 330 deg C @ 760 mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.8400 g/cm³

Molecular Formula: Not applicable.

Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Excess heat.

Incompatibilities with Other Materials: Water, metals, strong reducing agents, reducing agents, strong bases, organic matter.

Hazardous Decomposition Products: Oxides of sulfur, irritating and toxic fumes and gases, chromium dioxide, chromium fumes.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 7664-93-9: WS5600000

CAS# 7732-18-5: ZC0110000

CAS# 1333-82-0: GB6650000

CAS# 7778-50-9: HX7680000

CAS# 65272-71-1 unlisted.

LD50/LC50:

CAS# 7664-93-9:

Draize test, rabbit, eye: 250 ug Severe;
Inhalation, mouse: LC50 = 320 mg/m³/2H;
Inhalation, mouse: LC50 = 320 mg/m³;
Inhalation, rat: LC50 = 510 mg/m³/2H;
Inhalation, rat: LC50 = 510 mg/m³;
Oral, rat: LD50 = 2140 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

CAS# 1333-82-0:

Oral, mouse: LD50 = 127 mg/kg;
Oral, rat: LD50 = 80 mg/kg;

CAS# 7778-50-9:

Draize test, rabbit, eye: 140 mg Severe;
Oral, mouse: LD50 = 190 mg/kg;
Oral, rat: LD50 = 25 mg/kg;
Skin, rabbit: LD50 = 14 mg/kg;

CAS# 65272-71-1:

Carcinogenicity:

CAS# 7664-93-9:

- **ACGIH:** A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)
- **California:** carcinogen, initial date 3/14/03 (listed as Strong inorganic acid mists containing sulfuric acid).
- **NTP:** Known carcinogen (listed as Strong inorganic acid mists containing s).
- **IARC:** Group 1 carcinogen

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

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).

CAS# 7778-50-9:

- **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 (listed as Chromium (VI) compounds).
- **IARC:** Group 1 carcinogen (listed as Chromium (VI) compounds).

CAS# 65272-71-1:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water soluble').
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: Certain hexavalent chromium compounds have been demonstrated to be carcinogenic on the basis of epidemiological investigations on workers and experimental studies in animals. Hexavalent chromium compounds have been said to also cause kidney damage in workers where absorption through damaged skin has occurred.

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

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:	CHROMOSULFURIC ACID	CHROMOSULFURIC ACID
Hazard Class:	8	8
UN Number:	UN2240	UN2240
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7664-93-9 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 1333-82-0 is listed on the TSCA inventory.
CAS# 7778-50-9 is listed on the TSCA inventory.

CAS# 65272-71-1 is not listed on the TSCA inventory. It is for research and development use only.

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) CAS# 7778-50-9: Section 6 (see 40 CFR 749.68)

TSCA Significant New Use Rule

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

CERCLA Hazardous Substances and corresponding RQs

CAS# 7664-93-9: 1000 lb final RQ; 454 kg final RQ CAS# 7778-50-9: 10 lb final RQ; 4.54 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 7664-93-9: 1000 lb TPQ

SARA Codes

CAS # 7664-93-9: immediate, delayed, reactive.
CAS # 1333-82-0: immediate, delayed.
CAS # 7778-50-9: delayed.

Section 313

This material contains Sulfuric acid (CAS# 7664-93-9, 92%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Chromium trioxide (CrO₃) (listed as Chromium (VI) compounds), 1.3%, (CAS# 1333-82-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Potassium dichromate (listed as Chromium (VI) compounds), -%, (CAS# 7778-50-9) 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:

CAS# 7664-93-9 is listed as a Hazardous Substance under the CWA. CAS# 7778-50-9 is listed as a Hazardous Substance 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# 7664-93-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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.

CAS# 7778-50-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, (listed as Chromium (VI) compounds- water soluble), Minnesota, (listed as Chromium (VI) compounds), Massachusetts.

CAS# 65272-71-1 can be found on the following state right to know lists: Minnesota, (listed as Chromium (VI) compounds- water soluble).

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 Sulfuric acid, listed as 'Strong inorganic acid mists contain', a chemical known to the state of California to cause cancer. WARNING: This product contains Chromium trioxide (CrO₃), listed as 'Chromium (VI) compounds', a chemical known to the state of California to cause cancer. WARNING: This product contains Potassium dichromate, 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 N

Risk Phrases:

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 17 Keep away from combustible material.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
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 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7664-93-9: 2
CAS# 7732-18-5: No information available.
CAS# 1333-82-0: 3
CAS# 7778-50-9: 3
CAS# 65272-71-1: 3

Canada - DSL/NDSL

CAS# 7664-93-9 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 1333-82-0 is listed on Canada's DSL List.
CAS# 7778-50-9 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7664-93-9 is listed on the Canadian Ingredient Disclosure List.
CAS# 1333-82-0 is listed on the Canadian Ingredient Disclosure List.
CAS# 7778-50-9 is listed on the Canadian Ingredient Disclosure List.
CAS# 65272-71-1 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/08/1999**Revision #6 Date:** 12/10/2004

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.