



Chemical Name: Cleaning Solution

Manufacturer: Fisher Scientific

Container size: 500ml

Location: VLA

Disposal: Place empty container in the trash. Give partial or full container to the safety officer.

MSDS# 05205

Section 1 - Chemical Product and Company Identification

MSDS Name: Cleaning Solution
Catalog Numbers: S79964MF, SC88-1, SC88-212, SC88-212E, SC88-500, SC88S-212, SC88S-500
Synonyms: Chromic acid-sulfuric acid

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#: 1333-82-0
Chemical Name: Chromium trioxide
%: 0.50
EINECS#: 215-607-8
Hazard Symbols:

Risk Phrases: 35

CAS#: 7664-93-9
Chemical Name: Sulfuric acid
%: 93.87
EINECS#: 231-639-5
Hazard Symbols: C

Risk Phrases:

CAS#: 7732-18-5
Chemical Name: Water
%: 5.63
EINECS#: 231-791-2
Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols: C



Risk Phrases: 35

EMERGENCY OVERVIEW

Danger! May cause allergic respiratory reaction. May cause allergic skin reaction. Corrosive. Causes eye and skin burns. May cause severe respiratory and digestive tract irritation with possible burns. May cause cancer based on animal studies.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury.

Skin: Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns.

Inhalation: May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to 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. May cause cancer according to animal studies.

Section 4 - First Aid Measures

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

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. **SPEEDY ACTION IS CRITICAL!** 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.

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.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: 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. Contact with water can cause violent liberation of heat and splattering of the material.

Extinguishing Media: Do NOT use water directly on fire. Use water spray to cool fire-exposed containers. Use dry chemical to fight fire.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; Special Hazard: -W-

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. Cover with sand, dry lime or soda ash and place in a closed container for disposal.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not allow contact with water. Use only in a chemical fume hood.

Storage: Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store near alkaline substances.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Chromium trioxide	0.05 mg/m3 TWA (as Cr) (listed under Chromium (VI) compounds- water soluble).	0.001 mg/m3 TWA (as Cr) 15 mg/m3 IDLH (as Cr(VI))	5 æg/m3 TWA (listed under Chromium (VI) compounds).2.5 æg/m3 Action Level (as Cr.); 5 æg/m3 TWA (as Cr, Cancer hazard - see 29 CFR 1910.1026) (listed under Chromium (VI) compounds).
Sulfuric acid	0.2 mg/m3 (thoracic fraction)	1 mg/m3 TWA 15 mg/m3 IDLH	1 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Chromium trioxide: None listed Sulfuric acid: 1 mg/m3 TWA Water: None listed

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Personal Protective Equipment

Eyes: Wear chemical goggles and a face shield.

Skin: Wear neoprene gloves, apron, and/or clothing.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: 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

Color: dark brown

Odor: none reported

pH: strong acidic.

Vapor Pressure: .001 mm Hg @ 20 deg C

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 290 deg C (554.00°F)

Freezing/Melting Point: -5 deg C (23.00°F)

Decomposition Temperature: Not available

Solubility in water: Soluble in water.

Specific Gravity/Density: 1.9

Molecular Formula: Mixture

Molecular Weight: 0

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, contact with water, metals, excess heat, combustible materials, organic materials, oxidizers, amines, bases.

Incompatibilities with Other Materials	Metals, oxidizing agents, strong bases, chlorates, nitrates, carbides, fulminates, picrates.
Hazardous Decomposition Products	Oxides of sulfur.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 1333-82-0: GB6650000 CAS# 7664-93-9: WS5600000 CAS# 7732-18-5: ZC0110000 RTECS: CAS# 1333-82-0: Oral, mouse: LD50 = 127 mg/kg; Oral, rat: LD50 = 80 mg/kg;
LD50/LC50:	. RTECS: 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;
Carcinogenicity:	. RTECS: CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg; Chromium trioxide - California: carcinogen, initial date 2/27/87 (Chromium (VI) compounds). NTP: Known carcinogen IARC: Group 1 carcinogen Sulfuric acid - ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists) California: carcinogen, initial date 3/14/03 (Strong inorganic acid mists containing sulfuric acid). NTP: Known carcinogen (Strong inorganic acid mists containing s). IARC: Group 1 carcinogen Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Hazard Class: 8
UN Number: UN3264
Packing Group: II
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

USA RQ: CAS# 7664-93-9: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 35 Causes severe burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 30 Never add water to this product.

WGK (Water Danger/Protection)

CAS# 1333-82-0: 3

CAS# 7664-93-9: 2

CAS# 7732-18-5: Not available

Canada

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

CAS# 7664-93-9 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1A, D2A, E

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.

CAS# 1333-82-0 is listed on Canada's Ingredient Disclosure List

CAS# 7664-93-9 is listed on Canada's Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 1333-82-0 is listed on the TSCA Inventory.

CAS# 7664-93-9 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/12/1997

Revision #7 Date 7/20/2009

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 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.
