



Health
Fire
Reactivity
Personal Protection

# Material Safety Data Sheet

## Cleaning Solution MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Cleaning Solution

**Catalog Codes:** SLC4387

**Synonyms:** Chromic acid-sulfuric acid

**Contact Information:**

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**

1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7664-93-9	Sulfuric acid	93.87	231-639-5
7732-18-5	Water	5.63	231-791-2
1333-82-0	Chromium trioxide	0.50	215-607-8

**Hazard Symbols:** C

**Risk Phrases:** 35

### Section 3: Hazards Identification

**EMERGENCY OVERVIEW:** Appearance: dark brown liquid.

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

**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:** Treat symptomatically and supportively.

#### Section 5: Fire and Explosion Data

**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.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 2; 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

**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:

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sulfuric acid	0.2 mg/m <sup>3</sup> TWA (thoracic particulate mass); 3 mg/m <sup>3</sup> STEL	1 mg/m <sup>3</sup> TWA 15 mg/m <sup>3</sup> IDLH	1 mg/m <sup>3</sup> TWA
Water	none listed	none listed	none listed
Chromium trioxide	none listed	0.001 mg/m <sup>3</sup> TWA (as Cr) 15 mg/m <sup>3</sup> IDLH (as Cr(VI))	none listed

**OSHA Vacated PELs:** Sulfuric acid: 1 mg/m<sup>3</sup> TWA Water: No OSHA Vacated PELs are listed for this chemical. Chromium trioxide: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment:

**Eyes:** Wear chemical goggles and a face shield.

**Skin:** Wear appropriate gloves to prevent skin exposure.

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

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 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:** Liquid

**Appearance:** dark brown

**Odor:** none reported

**pH:** strong acidic.

**Vapor Pressure:** .001 mm Hg @ 20C

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 554 deg F

**Freezing/Melting Point:** 23 deg F

**Decomposition Temperature:** Not available.

**Solubility:** Soluble in water.

**Specific Gravity/Density:** 1.9

**Molecular Formula:** Mixture

**Molecular Weight:** Not available.

## Section 10: Stability and Reactivity Data

**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:** Strong bases, oxidizing agents, metals, chlorates, nitrates, carbides, fulminates, picrates.

**Hazardous Decomposition Products:** Oxides of sulfur.

**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

**LD50/LC50:** CAS# 7664-93-9: Draize test, rabbit, eye: 250 ug Severe; Inhalation, mouse: LC50 = 320 mg/m<sup>3</sup>/2H; Inhalation, mouse: LC50 = 320 mg/m<sup>3</sup>; Inhalation, rat: LC50 = 510 mg/m<sup>3</sup>/2H; Inhalation, rat: LC50 = 510 mg/m<sup>3</sup>; 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;

**Carcinogenicity:** CAS# 7664-93-9:

**ACGIH:** A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)

**OSHA:** Select carcinogen

**IARC:** Group 1 carcinogen CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 1333-82-0:

**ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water solu

**California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).

**NIOSH:** potential occupational carcinogen

**NTP:** Known carcinogen

**OSHA:** Select carcinogen

**IARC:** IARC Group 3 - not classifiable (listed as Chromium).

**Epidemiology:** Workers exposed to industrial sulfuric acid mist showed a statistical increase in laryngeal cancer. This data suggests a possible relationship between carcinogenesis and inhalation of sulfuric acid mist.

**Teratogenicity:** Developmental abnormalities of the fetus have been reported in animals by the subcutaneous and intravenous injection of chromium trioxide.

**Reproductive Effects:** Post-implantation mortality has been reported in hamsters by the intravenous injection of chromium trioxide.

**Neurotoxicity:** No information available.

**Mutagenicity:** No information available.

**Other Studies:** No data available.

## Section 12: Ecological Information

**Ecotoxicity:** No data available. Sulfuric acid is harmful to aquatic life in very low concentrations. It may be dangerous if it enters water intakes. The aquatic toxicity for bluegill in fresh water was 24.5 ppm/24 hr, which was lethal.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** No information available.

### Section 13: Disposal Considerations

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14: Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.				No information available.
<b>Hazard Class:</b>	8				
<b>UN Number:</b>	UN3264				
<b>Packing Group:</b>	II				

### Section 15: Other 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.

**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: Present

**TSCA Significant New Use Rule:** None of the chemicals in this material have a SNUR under TSCA.

**SARA:**

**CERCLA Hazardous Substances and corresponding RQs:** CAS# 7664-93-9: 1000 lb final RQ; 454 kg final RQ

**SARA Section 302 Extremely Hazardous Substances:** CAS# 7664-93-9: 1000 lb TPQ

**SARA Codes:** CAS # 7664-93-9: acute, chronic, reactive. CAS # 1333-82-0: acute, chronic.

**Section 313:** This material contains Sulfuric acid (CAS# 7664-93-9, 93 87%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. This chemical is not at a high enough concentration to be reportable under Section 313.

**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. 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, 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:** 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# 7664-93-9: 2 CAS# 7732-18-5: No information available. CAS# 1333-82-0: 3

**Canada - DSL/NDL:** 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.

**Canada - WHMIS:** This product has a WHMIS classification of D1A, D2A, E.

**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.

**Exposure Limits:** CAS# 7664-93-9: OEL-ARAB Republic of Egypt:TWA 1 mg/m<sup>3</sup> OEL-AUSTRALIA:TWA 1 mg/m<sup>3</sup> OEL-BELGIUM:TWA 1 mg/m<sup>3</sup>;STEL 3 mg/m<sup>3</sup> OEL-CZECHOSLOVAKIA:TWA 1 mg/m<sup>3</sup>;STEL 2 mg/m<sup>3</sup> OEL-DENMARK:TWA 1 mg/m<sup>3</sup> OEL-FINLAND:TWA 1 mg/m<sup>3</sup>;STEL 3 mg/m<sup>3</sup>;Skin OEL-FRANCE:TWA 1 mg/m<sup>3</sup>;STEL 3 mg/m<sup>3</sup> OEL-GERMANY:TWA 1 mg/m<sup>3</sup> OEL-HUNGARY:STEL 1 mg/m<sup>3</sup> OEL-JAPAN:TWA 1 mg/m<sup>3</sup> OEL -THE NETHERLANDS:TWA 1 mg/m<sup>3</sup> OEL-THE PHILIPPINES:TWA 1 mg/m<sup>3</sup> OEL-POLAND:TWA 1 mg/m<sup>3</sup> OEL-RUSSIA:STEL 1 mg/m<sup>3</sup>;Skin OEL-SWEDEN:TWA 1 mg/m<sup>3</sup>; STEL 3 mg/m<sup>3</sup> OEL-SWITZERLAND:TWA 1 mg/m<sup>3</sup>;STEL 2 mg/m<sup>3</sup> OEL-THAILAND:TWA 1 mg/m<sup>3</sup> OEL-TURKEY:TWA 1 mg/m<sup>3</sup> OEL-UNITED KINGDOM:TWA 1 mg/m<sup>3</sup> OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV CAS# 1333-82-0: OEL-FINLAND;Carcinogen OEL-FRANCE:TWA 0.05 mg/m<sup>3</sup>;STEL 0.1 mg/m<sup>3</sup>;Carcinogen OEL-GERMANY;Carcinogen OEL-RUSSIA:STEL 0.01 mg/m<sup>3</sup>;Skin OEL-SWITZERLAND:TWA 0.05 mg/m<sup>3</sup>;STEL 0.1 mg/m<sup>3</sup> OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## Section 16: Other Information

**Created:** 02/14/2005 10:16 PM

**Last Updated:** 11/01/2010 12:00 PM

*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 ScienceLab.com 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 ScienceLab.com has been advised of the possibility of such damages.*