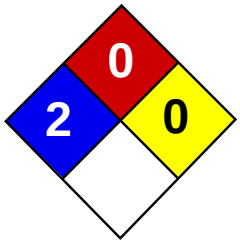

Material Safety Data Sheet
Chromic Acid, 5% (w/v) MSDS

Section 1: Chemical Product and Company Identification

Product Name: Chromic Acid, 5% (w/v)

Catalog Codes: SLC1555

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Chromium Trioxide; Water

CI#: Not available.

Synonym:

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

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

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

Composition:

Name	CAS #	% by Weight
Chromium Trioxide	1333-82-0	5
Water	7732-18-5	95

Toxicological Data on Ingredients: Chromium Trioxide: ORAL (LD50): Acute: 80 mg/kg [Rat]. 127 mg/kg [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (irritant), of eye contact (irritant). CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC [Chromium Trioxide]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Chromium Trioxide]. Mutagenic for bacteria and/or yeast. [Chromium Trioxide]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, gastrointestinal tract, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation.

Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:
Chromium trioxide + potassium permanganate will explode. Can react explosively with acetic anhydride, acetic acid, ethyl acetate, isoamyl alcohol, benzaldehyde (Chromium Trioxide)

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Corrosive liquid. Oxidizing material. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

Storage:
Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalies, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Chromium Trioxide TWA: 0.05 (mg(Cr)/m) from ACGIH (TLV) [United States] Inhalation CEIL: 0.1 (mg(Cr)/m) from OSHA (PEL) [United States] Inhalation TWA: 0.001 (mg(Cr)/m) from NIOSH [United States] InhalationConsult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Acidic.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.03 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:
Easily soluble in cold water, hot water. Soluble in diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Slightly reactive to reactive with combustible materials, organic materials, metals, acids, alkalis.

Corrosivity:
Extremely corrosive in presence of copper. Corrosive in presence of aluminum. Slightly corrosive in presence of stainless steel(304). Non-corrosive in presence of glass, of stainless steel(316).

Special Remarks on Reactivity:
Hygroscopic. Incompatible with alcohol, spirit nitrous ether, almost every organic substance, bromides, chlorides, iodides, hypophosphites, sulfites, sulfides, methanol, furfuryl, ethylene glycol, glycerol, bromine pentafluoride, hydrogen sulfide, butanol, isobutanol, acetaldehyde, propionaldehyde, butylaldehyde, benzaldehyde, benzene, perlargonic acid, isopropyl acetate, pentyl acetate, methyldioxane, dimethyldioxane, acetone, benzylethlyaniline, oils, greases or any easily oxidizable material. Acetylene is oxidized violently. Reacts violently with diethyl ether. It will reactly violently with naphthalene, camphor, glycerol, or turpentine. It will ignite ethy alcohol. Selenium reacts violently with Chromium Trioxide. Can react violently with most metal powders, ammonia, ammonium salts, phosphorus, sulfur, acids, finely divided organic compounds, flammable liquids. (Chromium Trioxide)

Special Remarks on Corrosivity:
Minor corrosive effect on bronze. Severe corrosive effect on brass.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact.

Toxicity to Animals: Acute oral toxicity (LD50): 1600 mg/kg (Rat) (Calculated value for the mixture).

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH, 1 (Proven for human.) by IARC [Chromium Trioxide]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Chromium Trioxide]. Mutagenic for bacteria and/or yeast. [Chromium Trioxide]. Contains material which may cause damage to the following organs: kidneys, liver, gastrointestinal tract, upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (corrosive, irritant), of eye contact (corrosive), of ingestion, of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals:
Lowest Published Lethal Dose LDL [Rat] - Route: Skin; Dose: 55 mg/kg (Chromium Trioxide)

Special Remarks on Chronic Effects on Humans:
May cause adverse reproductive effects (effects on fertility: fetotoxicity or post-implantation mortality) and birth defects. May affect genetic material (mutagenic). May cause cancer (tumorigenic). Epidemiological studies indicate long term exposure to dusts and mists at levels above the current PEL in chrome processing is associated with increases in respiratory tract cancer in man. (Chromium Trioxide)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes skin irritation. Contact with broken skin may lead to formation of firmly marginated "chrome sores." May cause allergic contact dermatitis. Dermal absorption of large amounts of chromic acid may affect behavior/central nervous system, and may result in kidney failure Eyes: Causes eye irritation. Inhalation: Causes irritation of the respiratory tract. Ingestion: Causes gastrointestinal tract irritation with epigrastic pain, nausea, vomiting and hypermotility, and diarrhea. May affect respiration (cyanosis). May cause kidney failure and liver damage. Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact may cause "chrome sores" on skin (especially broken skin), and dermatitis. Eyes: Repeated or prolonged eye contact may cause conjunctivitis. Inhalation: Repeated or prolonged inhalation may cause chronic respiratory tract irritation with hyperemia, chronic catarrh, congestion of the larynx, polyps of the upper respiratory tract, chronic inflammation of the lungs, emphysema, tracheitis, chronic bronchitis, chronic pharyngitis, bronchopneumonia. It may also affect behavior/central nervous system. Ingestion: Prolonged or repeated ingestion may also cause kidney and liver damage.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Chromium Trioxide California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Chromium Trioxide Connecticut hazardous material survey.: Chromium Trioxide Rhode Island RTK hazardous substances: Chromium Trioxide Pennsylvania RTK: Chromium Trioxide Massachusetts

RTK: Chromium Trioxide Massachusetts spill list: Chromium Trioxide New Jersey: Chromium Trioxide New Jersey spill list: Chromium Trioxide TSCA 8(b) inventory: Chromium Trioxide; Water TSCA 6 final risk management: Chromium Trioxide TSCA 12(b) one time export: Chromium Trioxide

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):
R8- Contact with combustible material may cause fire. R22- Harmful if swallowed. R43- May cause sensitization by skin contact. R45- May cause cancer. S1/2- Keep locked up and out of the reach of children. S24- Avoid contact with skin. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37- Wear suitable protective clothing and gloves. S37/39- Wear suitable gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label. S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Face shield.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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