Section 1 - Product Identification

An aqueous solution of chromic acid

Section II - Composition/Information on Components

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS#</th>
<th>OSHA Pel</th>
<th>ACGIH TLV</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>chromic acid</td>
<td>7738-94-5</td>
<td>0.1 mg/m3 (CrO3)</td>
<td>Ceil 0.05 mg/m3 (Cr) TWA</td>
<td>10% w/v</td>
</tr>
</tbody>
</table>

Section III - Hazards Identification

Overview: May be harmful if swallowed. May be irritating to skin eyes and respiratory tract.

Safety Ratings

Health: Severe  Flammability: None  Reactivity: Reactive  Contact: Hazardous
Recommended safety equipment: safety goggles, lab coat and proper gloves
Storage: General storage
NFPA Ratings
Health = 3  Flammability = 0  Reactivity = 2

Potential Health Effects

Chromic acid is a carcinogen and should be handled with care. It is also a strong oxidizer that will cause tissue damage and severe ulcers on contact with skin or eyes.

Inhalation: Extremely corrosive to mucous membranes and other structures in the respiratory tract. Will cause pulmonary edema.

Ingestion: Can cause severe burns to mouth, esophagus and stomach. Also causes nausea, vomiting, diarrhea, etc.

Skin contact: Can cause burns and ulceration.

Eye contact: Even brief contact can cause severe damage.

Chronic Exposure: Unknown

Aggravation of preexisting conditions: Unknown

Section IV - First Aid Measures

Inhalation: Because of the low vapor pressure, inhalation is unlikely to be a problem with this product. In case of difficulty, remove from source of exposure and get immediate medical attention. Be prepared to assist breathing.

Ingestion: Do not induce vomiting. If the victim is conscious administer large quantities of water. Never give anything by mouth to an unconscious person.
**Skin Contact:** Wash affected area with soap and water. Get medical advice if irritation develops.

**Eye Contact:** Rinse thoroughly with running water. Get immediate medical attention.

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### Section V - Fire Fighting Measures

- **Flash point:** Not applicable
- **Flammable Limits:** Not applicable
- **Fire:** Not normally a fire hazard.
- **Explosion:** Not normally an explosion hazard.
- **Fire Extinguishing Media:** Any means suitable for surrounding fire.
- **Special information:** Pyrolysis will release corrosive oxides of chromium.

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### Section VI - Accidental Release Measures

Absorb with a suitable absorbent and store in a suitable container for disposal.

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### Section VII - Handling and Storage

Store in a closed container, protected from freezing.

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### Section VIII - Exposure Control/Personal Protection

- **Airborne Exposure Limits:** See section II
- **Ventilation System:** Usually not required. When required, refer to the ACGIH document, “Industrial Ventilation, a Manual of Recommended Practices” for details about ventilation.
- **Personal Respirator:** Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.
- **Skin Protection:** Protective gloves are recommended as part of good laboratory practice.
- **Eye Protection:** Laboratory safety goggles or similar products are recommended as part of good laboratory practice.

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### Section IX - Physical and Chemical Properties

- **Boiling Point:** 102°C
- **Vapor pressure (mm Hg):** 18 @ 20°C
- **Vapor Density (air = 1):** 0.6
- **Appearance and Odor:** A clear, dark red liquid.
- **Density:** 1.10 g/ml
- **Evaporation Rate (water = 1):** 1
- **Solubility:** Infinitely miscible with water

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### Section X - Stability and Reactivity

- **Stability:** Freezes at low temperature.
- **Hazardous Decomposition Products:** Nothing unusual.
- **Hazardous polymerization:** Will not occur.
- **Incompatibilities:** Nothing unusual.
- **Conditions to avoid:** Excessive cold/heat and light.

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### Section XI - Toxicological Information

None relating to normal exposure.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Known Carcinogenicity?</th>
<th>Anticipated?</th>
<th>IARC Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromic Acid</td>
<td>Yes</td>
<td>No</td>
<td>1</td>
</tr>
</tbody>
</table>

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### Section XII - Ecological Information

- **Environmental Fate:** Not biodegradable.
- **Environmental Toxicity:** Toxic to marine life.
Section XIII - Disposal
Local governments usually restrict the amounts of chromium compounds that may be flushed down drain. Insure compliance with all government regulation.

Section XIV - Transportation Information
- DOT Shipping name: Chromic acid solution
- Hazard Class: 8
- Packing Group: II
- DOT Hazard Label: Corrosive
- DOT Identification Number: UN1755

Section XV - Regulatory Information

### Chemical Inventory Status

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromic Acid</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Federal, State and International Regulations

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>RQ</th>
<th>TPQ</th>
<th>SARA 313 List</th>
<th>Category</th>
<th>RCRA</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromic Acid</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Chromium Cmpd</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Chemical Weapons Convention: No, TSCA 12(b): Yes, CDTA: Yes
SARA 311/312: Acute: Yes, Chronic: Yes, Fire: Yes

Section XVI - Other Information
This information is believed to be correct but is not warranted as such, nor does it purport to be all inclusive.

Revision Date: Mar. 23, 2006