Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name/Trade Name: Chromium AA Standard

Manufacturer: SPECTRUM CHEMICAL MFG. CORP.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Commercial Name(s): Not available.

Synonym: Not available.

Chemical Name: Not applicable.

Chemical Family: Not available.

Chemical Formula: Not applicable.

Supplier: SPECTRUM CHEMICAL MFG. CORP.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

Catalog Number(s): AA155

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Chromic nitrate; Nitric acid, 70%; Water

CI#: Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300
CALL (310) 516-8000

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Chromic nitrate</td>
<td>7789-02-8</td>
<td>0.5</td>
<td></td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>2) Water</td>
<td>7732-18-5</td>
<td></td>
<td></td>
<td></td>
<td>94.9</td>
</tr>
<tr>
<td>3) Nitric acid, fuming</td>
<td>7697-37-2</td>
<td>5</td>
<td></td>
<td>4</td>
<td>4.34</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients:
- Chromic nitrate:
  - ORAL (LD50): Acute: 3250 mg/kg [Rat].
- Nitric acid, fuming:
  - VAPOR (LC50): Acute: 67 ppm 4 hour(s) [Rat].

Section 3. Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant), of ingestion, or inhalation (lung irritant). 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. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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### Potential Chronic Health Effects

- Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.
- Non-sensitizer for skin.
- **CARCINOGENIC EFFECTS**: Not available.
- **MUTAGENIC EFFECTS**: Not available.
- **TERATOGENIC EFFECTS**: Not available.
- **DEVELOPMENTAL TOXICITY**: Not available.

The substance is toxic to lungs, mucous membranes.

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. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

### Section 4. First Aid Measures

#### Eye Contact

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

#### Skin Contact

If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

#### Serious Skin Contact

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

#### Inhalation

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

#### Serious Inhalation

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

#### Ingestion

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

#### 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

- Risks of explosion of the product in presence of mechanical impact: Not available.
- Risks of explosion of the product in presence of static discharge: Not available.
- Slightly explosive to explosive in presence of reducing materials, of combustible materials, of organic materials.

#### Fire Fighting Media and Instructions

Not applicable.

#### Special Remarks on Fire Hazards

Not available.
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.**

Large Spill
Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. 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.** 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 locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapour/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. Keep away from incompatibles such as alkalis.

Storage
May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.

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. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

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
**Chromic nitrate**
TWA: 0.5 (mg/m³)

**Nitric acid, fuming**
TWA: 2 CEIL: 4 (ppm)
TWA: 5 CEIL: 10 (mg/m³)

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical state and appearance</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Taste</td>
<td>Not available.</td>
</tr>
<tr>
<td>Color</td>
<td>Clear Yellow.</td>
</tr>
<tr>
<td>pH (1% soln/water)</td>
<td>Acidic.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>The lowest known value is 82.6°C (180.7°F) (Nitric acid, fuming). Weighted average: 99.24°C (210.6°F)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>May start to solidify at -41.6°C (-42.9°F) based on data for: Nitric acid, fuming.</td>
</tr>
<tr>
<td>Critical Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Weighted average: 1.02 (Water = 1)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>The highest known value is 45 mm of Hg (@ 20°C) (Nitric acid, fuming). Weighted average: 18.74 mm of Hg (@ 20°C)</td>
</tr>
</tbody>
</table>

Continued on Next Page
Vapor Density  The highest known value is 0.62 (Air = 1) (Water).

Vocitivity  Not available.

Odor Threshold  The highest known value is 0.29 ppm (Nitric acid, fuming)

Water/Oil Dist. Coeff.  Not available.

Ionicity (in Water)  Not available.

Dispersion Properties  See solubility in water.

Solubility  Easily soluble in cold water.

Section 10. Stability and Reactivity Data

Stability  The product is stable.

Instability Temperature  Not available.

Conditions of Instability  Not available.

Incompatibility with various substances  Reactive with alkalis.

Corrosivity  Highly corrosive in presence of steel, of aluminum, of zinc, of copper.

Special Remarks on Reactivity  Not available.

Special Remarks on Corrosivity  No.

Polymerization  No.

Section 11. Toxicological Information

Routes of Entry  Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals  WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity of the vapor (LC50): 1544 ppm 4 hour(s) (Rat) (Calculated value for the mixture).

Chronic Effects on Humans  The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans  Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, of inhalation (lung irritant).

Special Remarks on Toxicity to Animals  Not available.

Special Remarks on Chronic Effects on Humans  Not available.

Special Remarks on other Toxic Effects on Humans  Not available.

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.
**Section 13. Disposal Considerations**

**Waste Disposal**

**DOT Classification**
CLASS 8: Corrosive liquid.

**Identification**
Nitric acid, solution (Nitric acid, fuming): UN2031 PG: II

**Special Provisions for Transport**
Marine Pollutant (Chromic nitrate)

**DOT (Pictograms)**
![DOT Classification Icon]

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**Section 14. Transport Information**

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>CLASS 8: Corrosive liquid.</th>
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<tr>
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</tr>
<tr>
<td>DOT (Pictograms)</td>
<td>![DOT Classification Icon]</td>
</tr>
</tbody>
</table>

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**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**
- Pennsylvania RTK: Chromic nitrate; Nitric acid, 70%
- Massachusetts RTK: Chromic nitrate; Nitric acid, 70%
- TSCA 8(b) inventory: Chromic nitrate; Nitric acid, 70%; Water
- SARA 302/304/311/312 extremely hazardous substances: Nitric acid, 70%
- SARA 313 toxic chemical notification and release reporting: Nitric acid, 70%
- CERCLA: Hazardous substances: Chromic nitrate; Nitric acid, 70%

**California Proposition 65 Warnings**

**Other Classifications**
- WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
- WHMIS (Canada) CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
- WHMIS (Canada) CLASS E: Corrosive liquid.
- DSCL (EEC) R23- Toxic by inhalation.
- DSCL (EEC) R35- Causes severe burns.

**HMIS (U.S.A.)**
- Health Hazard 3
- Fire Hazard 0
- Reactivity 0
- Personal Protection

**National Fire Protection Association (U.S.A.)**
Health 3 Flammability 0 Reactivity Specific hazard

**Whmis (Canada) (Pictograms)**
![Whmis (Canada) Pictograms]

**DSCL (Europe) (Pictograms)**
![DSCL (Europe) Pictograms]
Section 16. Other Information

<table>
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<tr>
<th>MSDS Code</th>
<th>ACHRO</th>
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<tbody>
<tr>
<td>References</td>
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</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Verified by Sonia Owen.  

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.