SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

NAME: CHROM-STRIP 624
TYPE: Acidic Solution
PRODUCT #: 239531

FOR INDUSTRIAL USE ONLY – KEEP OUT OF THE REACH OF CHILDREN

EMERGENCY RESPONSE INFORMATION:

| CHEMTREC | 800-424-9300 | 24-Hour Service |
| Company Offices: | 812-273-6000 | Weekdays |
| Cara Cyrus: | 812-599-3611 | Evenings and Weekends |
| Bill Torline: | 812-599-4976 | Evenings and Weekends |

PREPARED DATE: 04-01-15  PREPARED BY: Marjorie E. Hare

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification
- Corrosive to Metals: Category 1 H290
- Acute Toxicity, Oral: Category 4 H302
- Aspiration hazard: Category 1 H304
- Skin Corrosion/Irritation: Category 1B H314
- Serious Eye Damage/Eye Irritation: Category 1 H318
- Skin Sensitization: Category 1 H317
- Acute Toxicity, Inhalation: Category 1 H330
- Target Organ Toxicity: Category 1 H334
- Aquatic toxicity acute: Category 3 H402

Signal Word: DANGER

Hazard Statements
- H290 May be corrosive to metals.
- H302 Harmful if swallowed
- H304 May be fatal if swallowed and enters airways
- H314 Causes severe skin burns and eye damage
- H317 Causes serious eye damage
- H318 May cause an allergic skin reaction
- H330 Fatal if inhaled
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H402 Harmful to aquatic life.

Precautionary Statements
- P260 Do not breathe mist, spray, vapors.
- P264 Wash hands, forearms, and exposed areas thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear eye protection, face protection, protective clothing, protective gloves.
- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
SAFETY DATA SHEET

Precautionary Statements continued

P304 + P340  IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310  Immediately call a POISON CENTER or doctor / physician.
P321  Specific treatment (see Section 4).
P363  Wash contaminated clothing before reuse.
P405  Store locked up.
P501  Dispose of contents / container according to local, regional, national and international regulations.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>SYNONYM</th>
<th>CAS NO.</th>
<th>% BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>Muriatic acid</td>
<td>7647-01-0</td>
<td>70 – 80</td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>None</td>
<td>7646-85-7</td>
<td>1 – 10</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES:
EYES: Immediately flush with large quantities of cool water continuously for at least 15 minutes. Call a physician.
SKIN: Immediately flush with large quantities of cool water continuously for at least 15 minutes. Call a physician. Remove contaminated clothing and shoes. Do not put contaminated clothing and shoes back on. Wash clothing and shoes thoroughly in soap and water; rinse repeatedly in clean water and dry before reuse.
INGESTION: Do NOT induce vomiting. Give water. Never give anything by mouth if the person is unconscious or if having convulsions. Call a physician.
INHALATION: Remove subject to fresh air and get medical attention.
PRIMARY ROUTE(S) OF ENTRY: Eyes, skin, inhalation.
MOST IMPORTANT SYMPTOMS / EFFECTS, ACUTE AND DELAYED:
GENERAL: Causes burns to skin and eyes.
EYE CONTACT: Causes serious eye damage.
SKIN CONTACT: Causes burns.
INGESTION: Harmful if swallowed.
INHALATION: Can cause damage to nasal and respiratory passages.
CHRONIC SYMPTOMS: None expected under normal conditions of use.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY: If you experience any of the symptoms / effects listed above seek medical advice.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:
Use extinguishing media as appropriate for surrounding fire.
SPECIFIC HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:
Product is not explosive, however this product reacts with most metals to release hydrogen gas which can form explosive mixtures with air. Hazardous reactions will not occur under normal conditions.
ADVICE FOR FIRE FIGHTERS:
Wear self-contained breathing apparatus with full face piece operated in positive pressure mode and full body protective clothing. Use water spray to keep containers cool. Hazardous Combustion Products: Hydrogen chloride, acid vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES:
Avoid all contact with skin, eyes and clothing. Avoid breathing vapors. Wear impermeable gloves. Goggles and face shield necessary. Wear full protective acid resistant clothing. Use NIOSH / MSHA approved positive pressure self-contained breathing apparatus when any material is involved in a fire.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:
Contain liquid spills with sand and absorb on inert material. Dispose with solid waste. Ventilate area. Eliminate all ignition sources. See Waste Disposal Method. Do not discharge to sewers or waterways without proper treatment. Contact state and federal environment organizations if RQ is exceeded.
SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:
Wear proper safety equipment when handling this product. Handle in accordance with good industrial hygiene and safety procedures.

CONDITIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES:
Normal for acidic materials. Store away from alkalis. Keep container closed when not in use. Always add acids to water; never add water to acids.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

<table>
<thead>
<tr>
<th>CHEMICAL IDENTITY</th>
<th>CAS NO.</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric acid</td>
<td>7647-01-0</td>
<td>N.E.*</td>
<td>N.E.*</td>
</tr>
<tr>
<td>Zinc chloride (as fume)</td>
<td>7646-85-7</td>
<td>1 mg / M³</td>
<td>1 mg / M³</td>
</tr>
</tbody>
</table>

*The hydrochloric acid contained in this product has as components 60% water and 15% maximum as hydrogen chloride. Hydrogen chloride, CAS #7647-01-0, has an OSHA PEL of 5 ppm – ceiling limit and an ACGIH TLV of 2 ppm – ceiling limit.

ENGINEERING CONTROLS:
Local exhaust required.

INDIVIDUAL PROTECTION MEASURES:
Selection of personal protective equipment should be based upon the anticipated exposure and made in accordance with OSHA’s Personal Protective Equipment Standard found in 29 CFR 1910 Subpart I. The following information may be used to assist in PPE selection.

RESPIRATORY PROTECTION:
In absence of proper environmental control, use NIOSH / MSHA approved inorganic acid vapor respirator for mists where airborne exposure is excessive.

SKIN PROTECTION:
Impermeable type gloves. Rubber apron and rubber boots required. Other equipment as required to avoid contact.

EYE PROTECTION:
Goggles and face shield necessary.

GENERAL HYGIENE CONSIDERATIONS:
Eyewash facility and emergency shower should be in close proximity. Always wash hands after handling any chemical.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:
Clear, straw-colored liquid.

ODOR:
Pungent.

ODOR THRESHOLD:
Not available.

pH (100%):
-0.5 – 0.0

MELTING POINT/FREEZING POINT:
Not available.

INITIAL BOILING POINT AND BOILING RANGE:
230°F (110°C).

FLASH POINT (METHOD USED):
Not available.

EVAPORATION RATE:
Not available.

FLAMMABILITY (SOLID, GAS):
Not available.

UPPER/LOWER FLAMMABLE OR EXPLOSIVE LIMIT:
Not available.

VAPOR PRESSURE:
28 mm Hg @ 20°F.

VAPOR DENSITY:
1.3

SPECIFIC GRAVITY:
1.09

SOLUBILITY IN WATER:
Complete.

PARTITION COEFFICIENT: N-OCTANOL/WATER:
Not available.

AUTO-IGNITION TEMPERATURE:
Not available.

VISCOITY, DYNAMIC:
Not available.

DECOMPOSITION TEMPERATURE:
Not available.

VISCOITY:
Not available.
SAFETY DATA SHEET

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Hazardous reactions will not occur under normal conditions.
CHEMICAL STABILITY: Material is stable.
POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.
CONDITIONS TO AVOID: No data found.
INCOMPATIBLE MATERIALS: Strong alkalis, alkali metals.
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, acid vapors.

SECTION 11: TOXOLOGICAL INFORMATION

ACUTE TOXICITY: Not classified
LD50 AND LC50 DATA: Not available.

ROUTES OF EXPOSURE / SYMPTOMS

EYES: DANGER! Causes serious eye damage
SKIN: DANGER! Causes burns.
INGESTION: WARNING! Harmful if swallowed.
INHALATION: DANGER! Can cause damage to nasal and respiratory passages.

GERM CELL MUTAGENICITY: Not classified.
TERATOGENICITY: Not available.
CHRONIC EFFECTS / CARCINOGENICITY: This material contains no ingredients above de minimus concentrations known or suspected to cause cancer.

SPECIFIC TARGET ORGAN TOXICITY (Repeated exposure): Not classified.
REPRODUCTIVE TOXICITY: Not classified.
SPECIFIC TARGET ORGAN TOXICITY (Single exposure): May cause allergy or asthma symptoms or breathing difficulties if inhaled.
ASPIRATION HAZARD: Not classified.

COMPONENT INFORMATION:

Hydrogen chloride
LD50 Oral Rabbit: 900 mg/kg
LC50 inhalation rat: 4701 ppm/ 30 minutes
Mutagenic effects: Inhalation: 100 ppm/ 24 hours (chromosome damage)
Oral: 100 ppm (chromosome damage)
Parental: 20 ppm (Cytogenic effects)

Zinc chloride
LD50 Oral Rat: 350 mg/kg
LD50 Dermal: No data.
LC50 Inhalation: No data.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY

The ecotoxicity of this product is not known.

COMPONENT INFORMATION

Hydrogen chloride
Freshwater Fish Data: No data available.
Invertebrate Toxicity Data: No data available

Zinc chloride
LC50 Fish Carp (Cyprinus carpio): 0.4 – 2.2 mg/l/96 hr
EC50 Water flea (Daphnia magna): 0.2 mg/l/48 hr

PERSISTENCE AND DEGRADABILITY: Not available.
BIOACCUMULATIVE POTENTIAL: Bioaccumulation potential is low
MOBILITY IN SOIL: Not available.
OTHER ADVERSE EFFECTS: Hydrochloric acid is listed as a hazardous air pollutant under the Clean Air Act.
SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Normal for acidic wastes containing zinc compounds. May require pH adjustment for neutralization. Dispose in accordance with local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Corrosive, liquid, acidic, inorganic, n.o.s. (contains hydrochloric acid)
HAZARD CLASS: 8
IDENTIFICATION NUMBER: UN3264
PACKING GROUP: II
EMERGENCY RESPONSE GUIDE: #154

SECTION 15: REGULATORY INFORMATION

VOC: 0.1 pounds per gallon (6 grams per liter).
TSCA STATUS All ingredients are listed on the TSCA inventory.
CERCLA REPORTABLE QUANTITY 5,000 pounds for hydrochloric acid (approximately 1,143 gallons).
1,000 pounds for zinc chloride (approximately 10,976 gallons).

SARA 311 / 312 HAZARD CLASSES

<table>
<thead>
<tr>
<th></th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACUTE HEALTH</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FIRE</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SUDDEN RELEASE OF PRESSURE</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>CHRONIC HEALTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REACTIVE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 312 INFORMATION
Storage of 10,000 pounds or more may require filing a Tier 2 form. Threshold planning quantity for reporting is 10,000 pounds. This material is not an extremely hazardous substance (EHS).

SARA 313 INFORMATION
This material contains the following substances subject to the reporting requirements of Section 313 of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

CHEMICAL NAME | CATEGORY CODE | CAS NUMBER | % BY WEIGHT
---|---|---|---
Hydrochloric acid* | None | 7647-01-0 | 47
Zinc chloride (as zinc compounds) | N982 | 7646-85-7 | 1

*Threshold determinations and release estimates for Hydrochloric acid apply only to aerosol forms, including mists, vapors, gas or fog, without regard to particulate size.

STATE REGULATORY INFORMATION
CALIFORNIA PROPOSITION 65 California has not identified the ingredients listed in Section 3 as known to cause cancer or reproductive toxicity.

SECTION 16: OTHER INFORMATION

MSDS STATUS: Revised to GHS Standards on 04-01-15.