IDENTITY (As used on Label and List)
CHEM-CREST 275

Uses: Ultrasonic liquid detergent concentrate used for the removal of oils, greases, carbon residues, various oxides, particulate matter, and various other contaminants from steels, ceramics, glasses, and other compatible materials. Contact a Crest Ultrasonics chemical specialist for process specific recommendations.

Section I – Product and Company Identification

Supplier: CREST ULTRASONICS CORPORATION
SCOTCH ROAD, TRENTON MERCER AIRPORT
TRENTON, NJ 08628, UNITED STATES OF AMERICA
www.crest-ultrasonics.com

Emergency Telephone Number
(800) 424-9300 (USA Chemtrec) or (703) 527-3887 (Int'l Chemtrec)
Telephone Number for Information
(609) 883-4000

Last update: 13 February 2014

Section II – Hazards Identification

Appearance - Clear to light yellow liquid, surfactant and alkaline odor

GHS Classification:
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 3)

Pictogram:

HMIS Classification: Health: 3 Fire: 0 Physical: 0
NFPA Rating: Health: 3 Fire: 0 Reactivity: 0

Signal Word: Danger

Hazard Statements:
H314: Causes severe skin burns and eye damage
H402: Harmful to aquatic life (acute)

Precautionary statements:
P280: Wear protective gloves / protective clothing / eye protection / face protection
P305 + P351 + P338: If eyes are exposed: Rinse continuously with water for 15 minutes minimum, ensuring to remove contact lenses if present and easy to do.
P310: Call poison control center and/or doctor/healthcare professional immediately

Recommended Personal Protective Equipment:
PVC-lined, neoprene, nitrile rubber, or polyethylene gloves, chemical splash goggles, and use good handling practices. Wear face guard and chemical apron when appropriate, as well as long pants and boots. Avoid splashing and spilling. Eye wash should be available in area. Wash hands before handling food after using any chemical.

Section III – Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>% ACTIVE</th>
<th>OSHA PEL</th>
<th>EC #</th>
<th>C.A.S. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>20-25%</td>
<td>2 mg/m3 (inhalation)</td>
<td>215-185-5</td>
<td>1310-73-2</td>
</tr>
<tr>
<td>POTASSIUM HYDROXIDE</td>
<td>7-10%</td>
<td>2 mg/m3 (inhalation)</td>
<td>215-181-3</td>
<td>1310-58-3</td>
</tr>
<tr>
<td>TETRASODIUM ETHYLENE DIAMINE TETRACETATE</td>
<td>3-4%</td>
<td>NONE</td>
<td>200-573-9</td>
<td>64-02-8</td>
</tr>
<tr>
<td>PROPRIETARY NON-IONIC SURFACTANTS</td>
<td>5-7%</td>
<td>N/E</td>
<td></td>
<td>TRADE SECRET</td>
</tr>
<tr>
<td>PROPRIETARY INGREDIENTS, INERT</td>
<td>balance</td>
<td>NONE</td>
<td></td>
<td>TRADE SECRET</td>
</tr>
</tbody>
</table>
Section IV – First Aid Measures

General Advice:
Seek medical attention. Move out of dangerous area. Present a copy of this MSDS to the physician in attendance.

Contact with eyes:
Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get immediate medical attention. If immediate medical attention is not available, keep flushing with water. Do not use chemical antidote.

If swallowed:
Do not induce vomiting. Vomiting will cause further damage to the digestive tract. Dilute by giving water. Give milk of magnesia. Keep warm and quiet. Seek medical attention immediately.

If inhaled:
Move person to fresh air. If breathing difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician immediately.

Skin contact:
Immediately flush exposed area with water for at least 15 minutes. Get medical attention immediately. Remove contaminated clothing. Launder all contaminated clothing before reuse. Discard contaminated shoes that are penetrated by material.

Section V – Fire-fighting Measures

Suitable extinguishing media:
Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

Protective equipment for fire-fighters:
Use self-contained breathing apparatus (SCBA) when necessary

Unusual Fire and Explosion Hazards
This material can react with chemically reactive metals such as aluminum, zinc, tin, lead, etc, as well as organic acids which can evolve hydrogen gas, which can form explosive mixtures with air.

Section VI – Accidental Release Measures

In case of a leak or spill:
Completely isolate the area of the leak or spill. Remove all non-necessary personnel from the area. Dyke the spilled material with sand, earth, or absorbent material. Soak up or suction material to drums, following all recommendations in Section VIII – Personal Protective Equipment of this MSDS. If possible, avoid draining to sewage and waterways. Material is very slippery. Wear full protective gear. Flush affected area after soak up with plenty of water. Neutralize all contained solutions to pH 7.

Section VII – Handling and Storage

Handling of material:
Avoid contact with eyes, skin, clothing, and other exposed areas of the body. Avoid inhalation of vapor or mist. Use standard measures for fire-fighting purposes. Eye wash should be available in area where product is used. Ensure use of proper personal protective equipment when handling any chemical.

Storage of material:
Keep material in container, tightly closed, in a dry environment. Do not allow to freeze. Follow all appropriate grounding and bonding procedures during use of any chemical. Follow all appropriate lockout / tagout procedures in all areas. Do not allow access of unauthorized personnel to chemical storage areas. Observe all local, state, and federal regulations. Material may be repackaged in steel or poly containers.

Section VIII – Exposure controls / Personal Protective Equipment

Engineering Controls:
In areas where deemed necessary, investigate all engineering controls and techniques in order to reduce risk of exposure to any chemical. Provide necessary ventilation. If necessary, use local exhaust ventilation at sources of air contamination. Consult ACGIH ventilation manual or NFPA Standard 91 for exhaust system designs.

Face and Eye Protection:
The use of chemical splash / safety goggles is highly recommended, along with accessibility to eye wash stations. If necessary, provide workers with chemical full-face shields. Any long hair should be firmly held behind or on top of the head to avoid exposure.

Skin Protection:
The use of chemically-resistant clothing and PVC-lined, latex, or Nitrile gloves is highly recommended for use with this product. Consult with glove manufacturers for a list of gloves acceptable for use with any chemical. If necessary, wear full-face shield and rubber aprons with use of chemicals. Wash all clothing that has been exposed to chemicals before reuse.
Section VIII – Exposure controls / Personal Protective Equipment (con’t)

Respiratory Protection:
Avoid inhalation of vapor from product. When exposure limits in a given area exceed set values, use NIOSH approved respiratory protection. Consult with respiratory protection equipment manufacturer for types of equipment suitable for each chemical. Respiratory protection must comply with 29 CFR 1910.134. When emergency conditions are presented, evacuate areas affected and use appropriate safety measures for respiratory protection such as, but not limited to, self-contained breathing apparatus, air-line respirator, full-face respirator, or other approved methods for each given chemical.

Section IX – Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance / Odor</td>
<td>clear to light yellow liquid, alkaline and surfactant odor</td>
</tr>
<tr>
<td>pH (100%)</td>
<td>13 ± 0.5</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.18 ± 0.02</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>&lt;32°F/0°C</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>&gt;212°F / 100°C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>complete</td>
</tr>
<tr>
<td>Flash Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Expansion Rate (butyl acetate = 1)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section X – Stability and Reactivity

<table>
<thead>
<tr>
<th>Stability</th>
<th>Unstable</th>
<th>Stable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Stability</td>
<td>Unstable</td>
<td>Stable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

This chemical is stable under anticipated normal operating conditions

Incompatibility (Materials to Avoid): Avoid contact with reactive metals such as aluminum, tin, lead, etc, and strong organic and mineral acids

Hazardous Decomposition or Byproducts: Contact with the above will form hydrogen gas, which can form explosive mixtures with air.

<table>
<thead>
<tr>
<th>Hazardous Polymerization</th>
<th>May Occur</th>
<th>Will Not Occur</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

This chemical will not undergo hazardous polymerization under anticipated normal operating conditions

Section XI – Toxicological Information

Acute Toxicity:
No data available

Carcinogenicity:
No component of this product at levels of greater than 0.1% is identified as a human carcinogen by IARC, ACGIH, NTP, or OSHA.

Teratogenicity:
No data available

Specific Target Organ Toxicity – single or repeated exposure (GHS)
No data available

Section XII – Ecological Information

No data available
Section XIII – Waste Disposal
Always dispose of all chemicals via State, Local, and Federal Regulations. Any processing done with the use of this chemical in which any substances are added to this material may make this waste management information inaccurate. Local laws must always be consulted when considering waste disposal.

Section XIV – Transportation Information
US Department of Transportation (DOT)
Corrosive liquid, NOS (Potassium and Sodium hydroxide solution), 8, 1760, PG II

ICAO/IATA
Corrosive liquid, NOS (Potassium and Sodium hydroxide solution), 8, 1760, PG II

IMDG
Corrosive liquid, NOS (Potassium and Sodium hydroxide solution), 8, 1760, PG II

Harmonization / Tariff Code:
3402905030

Section XV – Regulatory Information
OSHA Hazard Communication Standard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Immediate (acute) Health Hazard – Yes
Delayed (chronic) Health Hazard – Yes
Fire Hazard – No
Reactive Hazard – No

SARA Title III, section 313
Non-listed chemicals contained in this product are not subject to regulation under SARA Title III, section 313.

TSCA Section 8(b)
All of the components of this product are listed on the TSCA Inventory

CERCLA Reportable Quantities
N/E

New Jersey, Pennsylvania, and Massachusetts Right to Know Act Listed Components
Sodium Hydroxide, CAS# 1310-73-2
Potassium Hydroxide, CAS# 1310-58-3
Tetrasodium ethylene diamine tetraacetate, CAS# 64-02-8
Water, CAS# 7732-18-5

Section XVI: Other Information
Chem Crest Chemical MSDS are available via website, http://www.crest-ultrasonics.com
MSDS Prepared by: Charles P. Kaczorek, Technology Department Manager
Date of preparation: 13 February 2014

Legend:
N/A – Not Applicable; N/E – Not Established

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