MATERIAL SAFETY DATA SHEET
CETRIMIDE

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Cetrimide
Company Identification: Sisco Research Laboratories Pvt. Ltd.
Andheri (East), Mumbai – 400 099, India.
Fax : + 91 22 4268 5801
Website : www.srlchem.com

2 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1119-97-7</td>
<td>Tetradecyltrimethylammonium bromide</td>
<td>99%</td>
<td>214-291-9</td>
</tr>
</tbody>
</table>

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Causes burns. Hygroscopic (absorbs moisture from the air).

Potential Health Effects

Eye: Causes eye burns.
Skin: Causes skin burns.
Ingestion: Causes gastrointestinal tract burns. May cause burning sensations, coughing, wheezing, laryngitis, shortness of breath and headache.
Inhalation: Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Chronic: Not available.

4 - FIRST AID MEASURES

Eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring these instructions.
Skin: Remove contaminated clothes and rinse skin thoroughly with water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.
Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
### Inhalation:
Dust inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

### 5 - FIRE FIGHTING MEASURES

**General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:**
Use fire-extinguishing media appropriate for surrounding materials.

### 6 - ACCIDENTAL RELEASE MEASURES

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Collect spillage with shovel, broom or the like. Flush contaminated area with plenty of water. For waste disposal, see section 13.

### 7 – HANDLING AND STORAGE

**Handling:** Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

**Storage:** Store in closed original container. Do not store near heat sources or expose to excessive temperatures.

### 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:** Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust. An eye wash bottle must be available at the work site.

**Personal Protective Equipment**

| Eyes:          | Wear chemical goggles. |
|               |                        |
| Skin:         | Wear suitable protective clothing. |
| Clothing:     | Wear appropriate protective clothing to prevent skin exposure. |
| Respirators:  | During dust-raising work: Use respiratory equipment with particle filter, type P2. The use of filtering respirators should be limited to max. 3 hours per day. |

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

| Physical State: | Crystalline powder |
|                |                  |
| Color:         | white            |
| Molecular Formula: | C_{17}H_{38}NBr |
| Molecular Weight: | 336.40  |

### 10 - STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal temperature conditions
Conditions to Avoid: Heating. Strong oxidising substances.

Hazardous Decomposition Products: If heated to more than 200°C, the following substance(s) will be released: Alkyl bromides. Amines.

11 - TOXICOLOGICAL INFORMATION

Inhalation: Harmful if inhaled. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

Skin: Causes skin irritation. Repeated or prolonged contact with skin may cause allergic reactions in sensitive individuals.

Eye: Causes serious eye damage. Immediate first aid is necessary.

12 - ECOLOGICAL INFORMATION

Mobility: The product is water soluble and may spread in water systems.

Degradability: The product is expected to be biodegradable. (quaternary ammonium compounds, FeF Chemicals A/S, 1993)

Ecotoxicity: Very toxic to aquatic life.

13 - DISPOSAL CONSIDERATIONS

Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste.

Waste from residues: EWC-code:
07 05 07
07 06 07

14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>IATA</th>
<th>IMO</th>
<th>ID/ADR</th>
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</thead>
<tbody>
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<td>9</td>
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<tr>
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<td>III</td>
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</tbody>
</table>

15 - REGULATORY INFORMATION

Labelling:
Contains: Trimethyltetradecyl-ammonium bromide
H302: Harmful if swallowed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: C
Risk Phrases: R 34 Causes burns.
Safety Phrases: S 26 In case of contact with eyes, rinse immediately
with plenty of water and seek medical advice. S 36/37/39
Wear suitable protective clothing, gloves and eye/face
protection. S 45 In case of accident or if you feel unwell,
seek medical advice immediately (show the label where
possible). WGK (Water Danger/Protection) CAS# 1119-97-7: No information available.

Canada

CAS# 1119-97-7 is listed on Canada's DSL List.
CAS# 1119-97-7 is not listed on Canada's Ingredient

US FEDERAL

TSCA: CAS# 1119-97-7 is listed on the TSCA inventory.

16 - ADDITIONAL INFORMATION

SISCO RESEARCH LABORATORIES provides the information contained herein in
good faith but makes no representation as to its comprehensiveness or accuracy. This
document is intended only as a guide to the appropriate precautionary handling of the
material by a properly trained person using this product. Individuals receiving the
information must exercise their independent judgment in determining its appropriateness
for a particular purpose.