Cetyltrimethylammonium Bromide

sc-278833

Material Safety Data Sheet

Hazard Alert Code Key:
- Extreme
- High
- Moderate
- Low

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Cetyltrimethylammonium Bromide

STATEMENT OF HAZARDOUS NATURE

NFPA

SUPPLIER
Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

EMERGENCY
ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

SYNONYMS

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Toxicity:</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Body Contact:</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Reactivity:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chronic:</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

CANADIAN WHMIS SYMBOLS

MIN/NI=0
Low=1
Moderate=2
High=3
Extreme=4
REPEATED OR PROLONGED EXPOSURE TO ACIDS MAY RESULT IN THE EROSION OF TEETH, SWELLING AND OR ULCERATION.
Prolonged or repeated skin contact may cause degreasing with drying, cracking and dermatitis following doses of bromides during pregnancy.
withdrawn from therapeutic use due to their toxicity. Several cases of foetal abnormalities have been described in mothers who took large doses of bromides during pregnancy.

CHRONIC HEALTH EFFECTS

There may be dizziness, headache, nausea and weakness.
There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies. It requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

EMERGENCY OVERVIEW

RISK
Causes burns.
Risk of serious damage to eyes.
Harmful in contact with skin and if swallowed.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
- Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
- The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.
- Ingestion of acidic corrosives may produce burns around and in the mouth.
- The throat and esophagus.
- Concentrated solutions of many cationics may cause corrosive damage to mucous membranes and the esophagus.
- Nausea and vomiting (sometimes bloody) may follow ingestion.

EYE
- The material can produce chemical burns to the eye following direct contact.
- Vapors or mists may be extremely irritating.
- If applied to the eyes, this material causes severe eye damage.
- Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns.
- Mild burns of the epithelia generally recover rapidly and completely.

SKIN
- Skin contact with the material may be harmful; systemic effects may result following absorption.
- The material can produce chemical burns following direct contact with the skin.
- Irritation and skin reactions are possible with sensitive skin.
- Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.
- Solution of material in moisture on the skin, or perspiration, may increase irritant effects.
- Open cuts, abraded or irritated skin should not be exposed to this material.
- Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
- Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED
- If inhaled, this material can irritate the throat and lungs of some persons.
- The material is not thought to produce adverse health effects following inhalation (as classified using animal models).
- Nevertheless, adverse effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
- Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
- Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.

CHRONIC HEALTH EFFECTS
- Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.
- There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population.
- There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.
- Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.
- Chronic intoxication with ionic bromides, historically, has resulted from medical use of bromides but not from environmental or occupational exposure; depression, hallucinosis, and schizophreniform psychosis can be seen in the absence of other signs of intoxication. Bromides may also induce sedation, irritability, agitation, delirium, memory loss, confusion, disorientation, forgetfulness (aphasias), dysarthria, weakness, fatigue, vertigo, stupor, coma, decreased appetite, nausea and vomiting, diarrhoea, hallucinations, an acne like rash on the face, legs and trunk, known as bronchodermia (seen in 25-30% of case involving bromide ion), and a profuse discharge from the nostrils (coryza). Ataxia and generalised hyperreflexia have also been observed. Correlation of neurologic symptoms with blood levels of bromide is inexact. The use of substances such as brompheniramine, as antihistamines, largely reflect current day usage of bromides; ionic bromides have been largely withdrawn from therapeutic use due to their toxicity. Several cases of foetal abnormalities have been described in mothers who took large doses of bromides during pregnancy.
- Prolonged or repeated skin contact may cause degreasing with drying, cracking and dermatitis following.
- Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and or ulceration of mouth lining. Irritation of airways to
lung, with cough, and inflammation of lung tissue often occurs.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS RN</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>cetyltrimethylammonium bromide</td>
<td>57-09-0</td>
<td>&gt;99</td>
</tr>
</tbody>
</table>

### Section 4 - FIRST AID MEASURES

**SWALLOWED**
- For advice, contact a Poisons Information Center or a doctor at once. · Urgent hospital treatment is likely to be needed.

**EYE**
- If this product comes in contact with the eyes: · Immediately hold eyelids apart and flush the eye continuously with running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

**SKIN**
- If skin or hair contact occurs: · Immediately flush body and clothes with large amounts of water, using safety shower if available. · Quickly remove all contaminated clothing, including footwear.

**INHALED**
- If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested. · If dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear breathing passages. · Ask patient to rinse mouth with water but to not drink water. · Seek immediate medical attention. Inhalation of vapors or aerosols (mists, fumes) may cause lung edema. Corrosive substances may cause lung damage (e.g.

**NOTES TO PHYSICIAN**
- For acute or short term repeated exposures to strong acids:
  - Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
  - Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling.
  - For exposures to quaternary ammonium compounds;
  - For ingestion of concentrated solutions (10% or higher): Swallow promptly a large quantity of milk, egg whites / gelatin solution. If not readily available, a slurry of activated charcoal may be useful. Avoid alcohol. Because of probable mucosal damage omit gastric lavage and emetic drugs.
  - For dilute solutions (2% or less): If little or no emesis appears spontaneously, administer syrup of ipecac or perform gastric lavage.

### Section 5 - FIRE FIGHTING MEASURES

- Vapour Pressure (mmHG): Negligible.
- Upper Explosive Limit (%): Not available.
- Specific Gravity (water=1): Not available.
- Lower Explosive Limit (%): 0.4

**EXTINGUISHING MEDIA**
- Water spray or fog.
- Foam.

**FIRE FIGHTING**
- Alert Emergency Responders and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

**GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS**
- Combustible.
- Slight fire hazard when exposed to heat or flame.

**FIRE INCOMPATIBILITY**
- Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

**PERSONAL PROTECTION**
- Glasses:
- Chemical goggles.
- Full face- shield.
- Gloves:
- Respirator:
- Particulate dust filter.
- Acid vapour Type B cartridge/ canister.

### Section 6 - ACCIDENTAL RELEASE MEASURES
MINOR SPILLS
· Remove all ignition sources.
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
· Control personal contact by using protective equipment.
· Use dry clean up procedures and avoid generating dust.
· Place in a suitable, labelled container for waste disposal.
· Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
· Check regularly for spills and leaks.

MAJOR SPILLS
· Clear area of personnel and move upwind.
· Alert Emergency Responders and tell them location and nature of hazard.

PROCEDURE FOR HANDLING
· Avoid all personal contact, including inhalation.
· Wear protective clothing when risk of exposure occurs.
Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
· Do NOT cut, drill, grind or weld such containers.
· In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

RECOMMENDED STORAGE METHODS
■ DO NOT use aluminum or galvanized containers.
Check regularly for spills and leaks.
· Lined metal can, Lined metal pail/drum
· Plastic pail.
For low viscosity materials
· Drums and jerricans must be of the non-removable head type.
· Where a can is to be used as an inner package, the can must have a screwed enclosure.

STORAGE REQUIREMENTS
· Store in original containers.
· Keep containers securely sealed.

Section 7 - HANDLING AND STORAGE

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

<table>
<thead>
<tr>
<th>Source/Exposure Limits</th>
<th>Material</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
<th>Peak ppm</th>
<th>Peak mg/m³</th>
<th>TWA F/CC</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Canada - Ontario
Occupational Exposure Limits | cetyltrimethylammonium bromide (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC)) | 10 (N) |
| Canada - British Columbia
Occupational Exposure Limits | cetyltrimethylammonium bromide (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC)) | 10 (N) |
| Canada - Ontario
Occupational Exposure Limits | cetyltrimethylammonium bromide (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs) | 3 (R) |
| US - Tennessee
Occupational Exposure Limits - Limits For Air Contaminants | cetyltrimethylammonium bromide (Particulates not otherwise regulated Respirable fraction) | 5 |
<table>
<thead>
<tr>
<th>Location</th>
<th>Substance</th>
<th>Limit (mg/m³)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US - California</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>5, (n)</td>
<td>Permissible Exposure Limits for Chemical Contaminants.</td>
</tr>
<tr>
<td><strong>US - Oregon</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>10</td>
<td>Permissible Exposure Limits (Z-1): Particulates not otherwise regulated (PNOR) (f) Total Dust.</td>
</tr>
<tr>
<td><strong>US - Michigan</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>5</td>
<td>Permissible Exposure Limits for Air Contaminants.</td>
</tr>
<tr>
<td><strong>US - Oregon</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>5, 10</td>
<td>PNOR means “particles not otherwise regulated.”</td>
</tr>
<tr>
<td><strong>US - Wyoming</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>5</td>
<td>Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants.</td>
</tr>
<tr>
<td><strong>Canada - Prince Edward Island</strong></td>
<td>Cetyltrimethylammonium bromide</td>
<td>10</td>
<td>Occupational Exposure Limits: Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles.</td>
</tr>
</tbody>
</table>

**PERSONAL PROTECTION**

- Particulate dust filter.

See Appendix B current TLV/BEI Book.
• Acid vapour Type B cartridge/ canister.
Consult your EHS staff for recommendations

**EYE**
- Chemical goggles.
- Full face shield.

**HANDS/FEET**
- Wear chemical protective gloves, eg. PVC.

**NOTE:** The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).
- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

**OTHER**
- Overalls.
- PVC Apron.

**ENGINEERING CONTROLS**
- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

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**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL PROPERTIES**

Mixes with water.
Corrosive.
Acid.

<table>
<thead>
<tr>
<th>State</th>
<th>DIVIDED SOLID</th>
<th>Molecular Weight</th>
<th>364.46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Range (°F)</td>
<td>459- 469</td>
<td>Viscosity</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling Range (°F)</td>
<td>Decomposes.</td>
<td>Solubility in water (g/L)</td>
<td>Miscible</td>
</tr>
<tr>
<td>Flash Point (°F)</td>
<td>471 approx.</td>
<td>pH (1% solution)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition Temp (°F)</td>
<td>459</td>
<td>pH (as supplied)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temp (°F)</td>
<td>Not available.</td>
<td>Vapour Pressure (mmHG)</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not available.</td>
<td>Specific Gravity (water=1)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>0.4</td>
<td>Relative Vapor Density (air=1)</td>
<td>13</td>
</tr>
<tr>
<td>Volatile Component (%vol)</td>
<td>Negligible.</td>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**APPEARANCE**

White powder or crystals, soluble in water and alcohol. Faint but characteristic odour. Hygroscopic. Solubility in water: 10%.

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**Section 10 - CHEMICAL STABILITY**

**CONDITIONS CONTRIBUTING TO INSTABILITY**

- Contact with alkaline material liberates heat.

**STORAGE INCOMPATIBILITY**

- Reacts with mild steel, galvanized steel / zinc producing hydrogen gas which may form an explosive mixture with air.
- Avoid strong bases.

Segregate from alkalis, oxidizing agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

For incompatible materials - refer to Section 7 - Handling and Storage.

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**Section 11 - TOXICOLOGICAL INFORMATION**

cetyltrimethylammonium bromide

**TOXICITY AND IRRITATION**
Quaternary ammonium compounds (QACs): Quaternary ammonium compounds (QACs) are cationic surfactants. They are synthetic organically tetra-substituted ammonium compounds, where the R substituents are alkyl or heterocyclic radicals. A common characteristic of these synthetic compounds is that one of the R's is a long-chain hydrophobic aliphatic residue.

The cationic surface active compounds are in general more toxic than the anionic and non-ionic surfactants. The positively-charged cationic portion is the functional part of the molecule and the local irritation effects of QACs appear to result from the quaternary ammonium cation. Due to their relative ability to solubilise phospholipids and cholesterol in lipid membranes, QACs affect cell permeability which may lead to cell death. Further QACs denature proteins as cationic materials precipitate protein and are accompanied by generalised tissue irritation. It has been suggested that the experimentally determined decrease in acute toxicity of QACs with chain lengths above C16 is due to decreased water solubility. In general it appears that QACs with a single long-chain alkyl groups are more toxic and irritating than those with two such substitutions. The straight chain aliphatic QACs have been shown to release histamine from minced guinea pig lung tissue. However, studies with...
benzalkonium chloride have shown that the effect on histamine release depends on the concentration of the solution. When cell suspensions (11% mast cells) from rats were exposed to low concentrations, a decrease in histamine release was seen. When exposed to high concentrations the opposite result was obtained. In addition, QACs may show curare-like properties (specifically benzalkonium and cetylpyridinium derivatives, a muscular paralysis with no involvement of the central nervous system. This is most often associated with lethal doses. Parenteral injections in rats, rabbits and dogs have resulted in prompt but transient limb paralysis and sometimes fatal paresis of the respiratory muscles. This effect seems to be transient. From human testing of different QACs the generalised conclusion is obtained that all the compounds investigated to date exhibit similar toxicological properties.

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

**CARCINOGEN**

<table>
<thead>
<tr>
<th>BROMINE COMPOUNDS (ORGANIC OR INORGANIC)</th>
<th>US Environmental Defense Scorecard</th>
<th>Reference(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspected Carcinogens</td>
<td>P65-MC</td>
<td></td>
</tr>
</tbody>
</table>

**Section 12 - ECOLOGICAL INFORMATION**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ safety data sheets.

**Ecotoxicity**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
<th>Bioaccumulation</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>cetyltrimethylammonium bromide</td>
<td>LOW</td>
<td>No Data Available</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

**Section 13 - DISPOSAL CONSIDERATIONS**

**US EPA Waste Number & Descriptions**

A. General Product Information

Corrosivity characteristic: use EPA hazardous waste number D002 (waste code C)

**Disposal Instructions**

All waste must be handled in accordance with local, state and federal regulations. Puncture containers to prevent re-use and bury at an authorized landfill. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

**Section 14 - TRANSPORTATION INFORMATION**

**DOT**

Symbols: None Hazard class or Division: 8
Identification Numbers: UN3261 PG: III
Label Codes: 8 Special provisions: IB8, IP3, T1, TP33
Packaging: Exceptions: 154 Packaging: Non-bulk: 213
Packaging: Exceptions: 154 Quantity limitations: 25 kg
Passenger aircraft/rail:
Quantity Limitations: Cargo 100 kg Vessel stowage: Location: A aircraft only:
Vessel stowage: Other: None
Hazardous materials descriptions and proper shipping names:
Corrosive solid, acidic, organic, n.o.s.

Air Transport IATA:
ICAO/IATA Class: 8 ICAO/IATA Subrisk: None
UN/ID Number: 3261 Packing Group: III
Special provisions: A3
Cargo Only
Packing Instructions: 100 kg Maximum Qty/Pack: 864
Passenger and Cargo Passenger and Cargo
Packing Instructions: 25 kg Maximum Qty/Pack: 860
Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity
Packing Instructions: 5 kg Maximum Qty/Pack: Y845
Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.
*(CONTAINS CETYLTRIMETHYLAMMONIUM BROMIDE)

Maritime Transport IMDG:
IMDG Class: 8 IMDG Subrisk: None
UN Number: 3261 Packing Group: III
EMS Number: F-A, S-B Special provisions: 223 274
Limited Quantities: 5 kg Marine Pollutant: Yes
Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (contains cetyltrimethylammonium bromide)

Section 15 - REGULATORY INFORMATION

cetyltrimethylammonium bromide (CAS: 57-09-0,8044-71-1) is found on the following regulatory lists;
"Canada Domestic Substances List (DSL)","US Cosmetic Ingredient Review (CIR) Cosmetic ingredients found safe, with qualifications","US DOE Temporary Emergency Exposure Limits (TEELs)","US Toxic Substances Control Act (TSCA) - Inventory"

Section 16 - OTHER INFORMATION

ND
Substance CAS Suggested codes cetyltrimethylammonium bromide 57-09-0 Xn; R22 N; R50 cetyltrimethylammonium bromide 8044-71-1 Xn; R22 N; R50

Ingredients with multiple CAS Nos
Ingredient Name CAS cetyltrimethylammonium bromide 57-09-0, 8044-71-1

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Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references. A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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