

MATERIAL SAFETY DATA SHEET



EMERGENCY TELEPHONE 800-424-9300 (Chemtreec)
Lonza Inc. 90 Boroline Road Allendale NJ 07401
800-777-1875 (9am - 5pm) 309-697-7200 (After 5pm)

Health : 3
Flammability : 2
Reactivity : 0

95324 Bardac 2250

PAGE 1 OF 7

| | | |
|--------------------------------|--|--|
| MATERIAL Bardac 2250 | DATE ISSUED 05/28/04 - Revised | DOT HAZARD CLASSIFICATION 8, PG II |
| CAS. NO. Mixture | SUPERCEDES 04/23/96 | DOT SHIPPING NAME Disinfectant Liquid Corrosive N.O.S. |
| FORMULA Mixture | | DOT LABEL Corrosive and Flammable |

CHEMICAL NAME (Active) Didecyl dimethylammonium chloride

***** I - INGREDIENTS *****

| | APPROXIMATE WEIGHT % | TWA/TLV |
|---|-------------------------|---|
| N-,N-Didecyl-N,N-dimethylammonium chloride (CAS No. 7173-51-5) | 50 | None established |
| Ethanol (CAS No. 64-17-5) | 10 | 1000 ppm (OSHA-PEL} 1000 ppm (ACGIH-TWA) |
| Water (CAS No. 7732-18-5) | 40 | None established |

***** II - PHYSICAL AND CHEMICAL PROPERTIES *****

| | |
|---|---|
| APPEARANCE Colorless to pale yellow liquid | pH 6.5 to 9.0 (10% active solution) |
| VISCOSITY < 100 cps at 25°C | ODOR Ethanol-like |
| BOILING POINT Not known | MELTING OR FREEZING POINT -20°C |
| VAPOR DENSITY (Air=1) Not known | VAPOR PRESSURE (mm Hg) Not known |
| PERCENT VOLATILE (by weight) 50 | SOLUBILITY IN WATER Soluble |
| EVAPORATION RATE (Butyl Acetate=1) Not known | SPECIFIC GRAVITY (Water=1) 0.93/cm ³ @ 25°C |

***** III - FIRE AND EXPLOSION INFORMATION *****

| | |
|--|--|
| FLASH POINT ~ 109°F (Setaflash close cup) | AUTO IGNITION TEMPERATURE Not known |
| LOWER EXPLOSION LIMIT (%) Not known | UPPER EXPLOSION LIMIT (%) Not known |
| EXTINGUISHING MEDIA FOAM | ALCOHOL FOAM X CO ₂ X |
| DRY CHEMICAL X | WATER X OTHER |

SPECIAL FIRE FIGHTING PROCEDURES:

Must wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Cool fire-exposed containers with water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Products of combustion are toxic. Heated solvent vapors can travel to an ignition source and flash back.

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PAGE 3 OF 7

***** V - REACTIVITY INFORMATION (continued) *****

HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition may produce toxic vapors/fumes of hydrogen chloride, amines and other organic materials, and oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION

MAY WILL NOT X
OCCUR OCCUR

CONDITIONS TO AVOID

None known

INCOMPATIBILITY (MATERIALS TO AVOID)

WATER OTHER X Strong oxidizing or reducing agents.

***** VI - SPILL AND DISPOSAL INFORMATION *****

STEPS TO BE TAKEN IN CASE OF MATERIAL SPILL OR RELEASE

DANGER! Corrosive and Flammable liquid. Remove all sources of ignition and ground all equipment before beginning cleanup. Floors may become slippery. Wear appropriate protective equipment and NIOSH/MSHA approved respirator where mists or vapors of unknown concentrations may be generated (self-contained breathing apparatus preferred).

Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid separately to containers for recovery or disposal. Keep spill out of sewers and open bodies of water.

WASTE DISPOSAL METHODS

Dispose of in compliance with all Federal, state and local laws and regulations. Incineration is the preferred method. If burned, stay out of smoke.

CONTAINER DISPOSAL

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

***** VII - PERSONAL PROTECTION INFORMATION *****

ENGINEERING CONTROLS

In processes where mists or vapors may be generated, proper ventilation must be provided in accordance with good ventilation practices.

RESPIRATORY PROTECTION

In processes where mists or vapors may be generated, a NIOSH/MSHA jointly approved respirator is advised in the absence of proper environmental controls.

PROTECTIVE GLOVES

Rubber or neoprene, to prevent skin contact.

EYE PROTECTION

Wear chemical splash goggles where there is a potential for eye contact. Use safety glasses with side shields where there is no potential for eye contact.

OTHER PROTECTIVE EQUIPMENT

Eye wash; safety shower; protective clothing (long sleeves, coveralls or other, as appropriate), when needed, to prevent skin contact.

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PAGE 4 OF 7

***** VIII - STORAGE AND HANDLING *****

PRECAUTIONS FOR STORAGE AND HANDLING:

Maximum storage temperature: 140°F. Store containers in compliance with the most recent NFPA code (NFPA 30). Ground all containers prior to pouring. Keep containers closed when not in use. Do not contaminate drinking water, food or feed by storage or disposal.

***** IX - TOXICOLOGY & ECOTOXICOLOGY INFORMATION *****

ACUTE

- oral LD₅₀ (rat): 450 mg/kg; 412 mg/kg (males); 292 mg/kg (females)
- dermal LD₅₀ (rabbit): 3342 mg/kg, 4300 mg/kg
- eye irritation (rabbit): Extreme irritation that did not clear by day 7, post dose
- skin irritation (rabbit): Severe irritation that did not clear by day 7, post dose
- skin sensitization (0.2% active solution) (guinea pig): Not a sensitizer
- skin corrosivity (rabbit - DOT): Corrosive

GENOTOXICITY/MUTAGENICITY

- Ames test (Salmonella sp.): Not mutagenic
- Micronucleus (in vivo -rat): No evidence of chromosomal damage in the bone marrow of rats treated with 600 mg/kg.
- HGPRT (in vitro - CHO cells): Not clastogenic with or without metabolic activation.

For Didecyldimethylammonium chloride:

- Ames test (Salmonella sp.- on): Not mutagenic
- HGPRT (in vitro - CHO cells): Not clastogenic with or without metabolic activation.
- unscheduled DNA synthesis (in vitro): Not mutagenic with or without metabolic activation.

REPRODUCTIVE/DEVELOPMENTAL

- developmental (rat-oral): No evidence of developmental effects observed at exposure doses ranging from 10 to 50 mg/kg/day administered from day 6 through 15 of gestation.
- developmental (rabbit-oral): No evidence of developmental effects observed at exposure doses ranging from 10 to 50 mg/kg/day administered from day 6 through 15 of gestation.

REPEATED DOSE

For Didecyldimethylammonium chloride:

- subchronic dermal toxicity (rat - 90 days - feeding): No adverse systemic toxicity noted.
- chronic oral toxicity (dog - 1 year - feeding): No systemic target organ effects noted.

ECOTOXICITY

AQUATIC

For Didecyldimethylammonium chloride:

- LC₅₀ (salmon - 96 hour): 1.0 mg/l
- LC₅₀ (bluegill sunfish - 96 hour): 0.32 mg/l
- LC₅₀ (mysid shrimp - 96 hour): 0.069 mg/l
- EC₅₀ (Daphnia magna - 48 hour): 0.94 mg/l

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PAGE 5 OF 7

***** X - MISCELLANEOUS AND REGULATORY INFORMATION (continued)*****

INTERNATIONAL LEVEL REGULATIONS

INTERNATIONAL INVENTORY STATUS

The components of this product are listed on the following chemical inventory lists: Australian AICS; Canadian DSL; Chinese SEPA; European Union EINECS; Japanese METI; Korean ECL; Philippines PICCS and U.S. TSCA.

CANADIAN WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM(WHMIS) CLASSIFICATION

This product has a WHMIS classification of E, B2, D2-B

U.S. FEDERAL LEVEL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

The components in this product are currently listed on the EPA TSCA 8(b) inventory.

TSCA Section 12(b) Export Notification

Components present in this product which, if exported, could require either annual or one-time reporting under this regulation are as follows:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--------------------------------------|
| None known | | |

EPA REGULATION ON PESTICIDES

This product is an EPA FIFRA registered pesticide, EPA Registration No. 6836-51. It can only be used commercially in the United States for EPA registered application(s) listed on the product label.

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of

1980 requires notification of the National Response Center (Telephone 800-424-8802) in the event of a release of quantities of the following hazardous materials contained in this product, if the release is equal to or greater than the Reportable Quantities (RQs) listed in 40 CFR 302.4:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--------------------------------------|
| None known | | |

U.S. FEDERAL LEVEL REGULATIONS:

SARA Title III, Sections 302/304 (Superfund Amendments and Reauthorization act of 1986) - This act requires emergency planning, including agency notification, for possible release of the following components of this material, based upon the Threshold Planning Quantities (TPQs) and release Reportable Quantities (RQs) listed for the Components in 40 CFR 355:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--------------------------------------|
| None known | | |

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PAGE 6 OF 7

***** X - MISCELLANEOUS AND REGULATORY INFORMATION (continued) *****

SARA Title III Sections 311/312 - This act requires reporting under the Community Right-to-Know provisions due to the inclusion of the following components of this material in one or more of the five hazard categories listed in 40 CFR 370:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Hazard *) Categories</u> |
|---|-------------------|---------------------------------|
| N,N-Didecyl-N,N-dimethylammonium chloride | 7173-51-5 | A |
| Ethanol | 64-17-5 | F |

*) The five hazard categories are as follows: F=FIRE HAZARD; S= SUDDEN RELEASE OF PRESSURE; R=REACTIVE; A=IMMEDIATE (ACUTE) HEALTH HAZARD; C=DELAYED (CHRONIC) HEALTH HAZARD

SARA Title III Section 313 - This act requires submission of annual reports of releases of the following components of this material if the threshold reporting quantities as listed in 40 CFR 372, are met or exceeded:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--|
| None known | | |

STATE RIGHT-TO-KNOW REGULATIONS:

CALIFORNIA PROPOSITION 65 - Components present in this material which the State of California has found to cause cancer, birth defects or other reproductive harm are as follows:

AS A CANCER HAZARD

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|------------------------|-------------------|--|
| Acetaldehyde | 75-07-0 | 1 ppm |
| N-Nitrosodimethylamine | 62-75-9 | 100 ppb |

MASSACHUSETTS Right-to-Know - The following components of this material are included in the Massachusetts Substance List and are present at or above reportable levels:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--|
| Acetaldehyde | 75-07-0 | 1 ppm |
| Ethanol | 64-17-5 | 10% |

MICHIGAN Critical Materials - The following components of this material are included in the Michigan Critical Materials List:

| <u>Chemical Name</u> | <u>CAS Number</u> |
|----------------------|-------------------|
| None known | |

NEW JERSEY Right-to-Know - The following components of this material are included in the New Jersey Hazardous Substance List and are present at or above reportable levels:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|---|-------------------|--|
| N,N-Didecyl-N,N-dimethylammonium chloride | 7173-51-5 | 50% |
| Ethanol | 64-17-5 | 10% |

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PAGE 7 OF 7

***** X - MISCELLANEOUS AND REGULATORY INFORMATION (continued) *****

PENNSYLVANIA Right-to-Know - The following components of this material are included in the Pennsylvania Hazardous Substance List and are present at or above reportable levels:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Typical Maximum Concentration</u> |
|----------------------|-------------------|--------------------------------------|
| Ethanol | 64-17-5 | 10% |