

MATERIAL SAFETY DATA SHEET

Lonza

EMERGENCY TELEPHONE 800-424-9300 (Chemtrec)

Lonza Inc. 90 Boroline Road Allendale, NJ 07401
800-777-1875 (9am - 5pm) 309-697-7200 (After 5pm)

Health : 3
Flammability : 2
Reactivity : 0

95427 Bardac 2280

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MATERIAL Bardac 2280	DATE ISSUED 10/12/04-Revision	DOT HAZARD CLASSIFICATION 8, PG II
CAS. NO. Mixture	SUPERCEDES 09/12/02	DOT SHIPPING NAME Disinfectants, liquid, corrosive N.O.S.
FORMULA Mixture		DOT LABEL Corrosive
		IMO SHIPPING NAME Corrosive Liquid, Flammable, N.O.S.

CHEMICAL NAME (Active) N,N-Didecyl-N,N-dimethylammonium chloride

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

	APPROXIMATE WEIGHT %	TWA/TLV
N-,N-Didecyl-N,N-dimethylammonium chloride (CAS No. 7173-51-5)	80	None established
Ethanol (CAS No. 64-17-5)	10	1000 ppm (OSHA-PEL} 1000 ppm (ACGIH-TWA)
Water (CAS No. 7732-18-5)	10	None established

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

APPEARANCE Colorless to pale yellow liquid	pH 6.5 to 9.0 (10% active solution)
VISCOSITY Not known	ODOR Ethanol-like
BOILING POINT Not known	MELTING OR FREEZING POINT 10°C
VAPOR DENSITY (Air=1) Not known	VAPOR PRESSURE (mm Hg) Not known
PERCENT VOLATILE (by weight) 20	SOLUBILITY IN WATER Soluble
EVAPORATION RATE (Butyl Acetate=1) Not known	SPECIFIC GRAVITY (Water=1) 0.89 @ 25°C

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

FLASH POINT 107°F (Setaflash)	AUTO IGNITION TEMPERATURE Not known
LOWER EXPLOSION LIMIT (%) Not known	UPPER EXPLOSION LIMIT (%) Not known
EXTINGUISHING MEDIA FOAM	ALCOHOL FOAM X CO₂ X
DRY CHEMICAL X	WATER X OTHER

SPECIAL FIRE FIGHTING PROCEDURES:

Must wear NIOSH 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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***** V - REACTIVITY INFORMATION (continued) *****

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 combustible liquid. Remove all sources of ignition and ground all equipment before beginning cleanup. Floors may become slippery. Wear appropriate protective gear 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.

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 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 under normal use conditions.

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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***** 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 until used. Do not contaminate drinking water, food or feed by storage or disposal.

Empty containers retain product residues and can be dangerous. Do not pressurize, cut weld, braze, solder, drill, grind or expose such containers to heat or flame. They may explode and cause injury. Follow all MSDS precautions in handling empty containers.

***** IX - TOXICOLOGY INFORMATION *****

TOXICITY

The toxicity information provided is for this product and component(s) or similar products.

ACUTE

For Bardac 2280:

- oral LD₅₀ (rat): 450 mg/kg; 412 mg/kg (males); 292 mg/kg (females) (3 tests)
- dermal LD₅₀ (rabbit): 3342 mg/kg, 4300 mg/kg (2 tests)
- 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

For Bardac 2250: (A 50% active solution)

- skin corrosivity (DOT test on rabbit - 50% active): Corrosive

GENOTOXICITY/MUTAGENICITY

For Bardac 2250:

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

For Didecyldimethylammonium chloride:

- mutagenicity (Ames test - Salmonella Sp.): Not mutagenic
- mutagenicity (in vitro - CHO/HGPRT): Not mutagenic
- mutagenicity (in vitro - DNA synthesis): Not mutagenic

REPRODUCTIVE/DEVELOPMENTAL

For Bardac 2250:

- teratogenicity (rat): No statistically significant teratogenic effects observed with administration of doses from 10 to 50 mg/kg during days 6 through 15 of gestation.
- teratogenicity (rabbit): No statistically significant teratogenic effects observed with administration of doses from 10 to 50 mg/kg during days 6 through 15 of gestation.

ECOTOXICITY

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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***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****

FEDERAL LEVEL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

The components in this product are listed on U.S. EPA TSCA 8(b) inventory list.

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. 6836-53. This product can only be used commercially in the EPA FIFRA registered application(s) noted on the product label.

US FDA REGULATION ON FOODS

This product is regulated under the following section(s) of the Code of Federal Regulations (CFR) as an incidental food additive:

21 CFR 178.1010

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		

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		

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

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

FEDERAL LEVEL REGULATIONS (continued):

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	80%
Ethanol	64-17-5	10%

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%