

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

95319 Bardac 2080

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MATERIAL Bardac 2080	DATE ISSUED 10/28/04-Revised	DOT HAZARD CLASSIFICATION 8, PG II
CAS. NO. Mixture	SUPERCEDES 10/13/03	DOT SHIPPING NAME Disinfectant Liquid Corrosive N.O.S.
FORMULA Mixture		DOT LABEL Corrosive

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

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

	APPROXIMATE WEIGHT %	TWA/TLV
N,N-Dialkyl(C ₈₋₁₀)-N,N-dimethylammonium chloride (CAS No. 68424-95-3)	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 <100 cps at 25°C	ODOR Ethanol-like
BOILING POINT Not known	MELTING OR FREEZING POINT Not known
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) Approx. 0.89 @ 25°C

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

FLASH POINT 107°F (estimate)	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 *****

STABILITY: **STABLE** X **CONDITIONS TO AVOID**
 UNSTABLE None known

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 **CONDITIONS TO AVOID**
MAY **WILL NOT** X None known
OCCUR **OCCUR**

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 RELEASE

DANGER! Corrosive and combustible material. 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/MSHA jointly approved respirator is advised in the absence of proper environmental controls.

PROTECTIVE GLOVES

Rubber or neoprene, to prevent skin contact.

The information provided herein is compiled from internal reports and data from professional publications. IT IS FURNISHED WITHOUT WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. It is intended to assist in evaluating the suitability and proper use of the material in manufacturing and in the development and implementation of safety precautions and procedures.

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***** VII - PERSONAL PROTECTION INFORMATION continued) *****

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.

***** 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

No information found for this material. The information below is for the closely related material, Bardac 2080 and structurally similar components

ACUTE (For Bardac 2080)

- oral LD₅₀ (rat): 61-455 mg/kg
- dermal LD₅₀ (rabbit): 397 mg/kg
- dermal LD₅₀ (rabbit): 316-650 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 corrosivity (DOT test on rabbit): Corrosive

GENOTOXICITY/MUTAGENICITY (For Didecyldimethylammonium chloride)

- Ames test (Salmonella): Not mutagenic with or without metabolic activation
- Sister Chromatid Exchange (CHO cells): Not clastogenic with or without metabolic activation
- Bone Marrow Cytogenetic Analysis (rat): No evidence of chromosomal damage.

REPRODUCTIVE/DEVELOPMENTAL (For Didecyldimethylammonium chloride)

- reproductive toxicity (rats): No reproductive effects with treatment at 1000 ppm, but neonatal/parental effects were observed at 2000 ppm.
- teratogenicity (rat): Not teratogenic with oral gavage of 10 to 50 mg/kg (50% active) on days 6 through 15 of gestation.

ECOTOXICITY for Didecyldimethylammonium chloride

- LC₅₀ (bluegill sunfish - 96 hour): 0.52 mg/l
- LC₅₀ (rainbow trout - 96 hour): 0.93 mg/l
- EC₅₀ (Daphnia magna - 48 hour): 0.058 mg/l

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***** X - MISCELLANEOUS AND REGULATORY INFORMATION *****
FEDERAL LEVEL REGULATIONS:

TOXIC SUBSTANCES CONTROL ACT (TSCA INVENTORY) STATUS:

This product is currently 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 registered pesticide. EPA Registration No. 6836-54. This product can only be used commercially in the EPA registered application(s) noted on the product label.

US FDA REGULATION ON FOOD (Substance List)

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-Dialkyl) -N,N-dimethylammonium chloride	68424-95-3	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) *****

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
N-Nitrosodimethylamine	62-75-9	100 ppb
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-Dialkyl-N,N-dimethylammonium chloride	68424-95-3	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%