

# 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

95322 Bardac LF-80

PAGE 1 OF 6

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<b>MATERIAL</b> Bardac LF-80	<b>DATE ISSUED</b> 11/03/04 - Rev.	<b>DOT HAZARD CLASSIFICATION</b> 8, PG II
<b>CAS. NO.</b> Mixture	<b>SUPERCEDES</b> 01/19/96	<b>DOT SHIPPING NAME</b> Disinfectants, Corrosive Liquid, N.O.S.
<b>FORMULA</b> Mixture		<b>DOT LABEL</b> Corrosive <b>IMO SHIPPING NAME</b> Corrosive Liquid, Flammable, N.O.S.

**CHEMICAL NAME** (Active) N,N-Dioctyl-N,N-dimethylammonium chloride

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

	APPROXIMATE WEIGHT %	TWA/TLV
N,N-Dioctyl-N,N-dimethylammonium chloride (CAS No. 5538-94-3)	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 \*\*\*\*\*

<b>APPEARANCE</b> Colorless to pale yellow liquid	<b>pH</b> 6.5 to 9.0 (10% active solution)
<b>VISCOSITY</b> < 100 cP @ 25°C	<b>ODOR</b> Ethanol-like
<b>BOILING POINT</b> Not known	<b>MELTING OR FREEZING POINT</b> 32°F (0°C)
<b>VAPOR DENSITY (Air=1)</b> Not known	<b>VAPOR PRESSURE (mm Hg)</b> Not known
<b>PERCENT VOLATILE (by weight)</b> 20	<b>SOLUBILITY IN WATER</b> Soluble
<b>EVAPORATION RATE (Butyl Acetate=1)</b> Not known	<b>DENSITY (Water=1)</b> 0.93 @ 25°C

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

<b>FLASH POINT</b> 109°F (Setaflash)	<b>AUTO IGNITION TEMPERATURE</b> Not known
<b>LOWER EXPLOSION LIMIT (%)</b> Not known	<b>UPPER EXPLOSION LIMIT (%)</b> Not known
<b>EXTINGUISHING MEDIA</b> FOAM	<b>ALCOHOL FOAM</b> X <b>CO<sub>2</sub></b> X
<b>DRY CHEMICAL</b> X	<b>WATER</b> X <b>OTHER</b>

### 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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PAGE 3 OF 6

\*\*\*\*\* 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 OR RELEASE

DANGER! Corrosive and flammable material. 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.

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 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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PAGE 4 OF 6

\*\*\*\*\* 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 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.

\*\*\*\*\* 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.

\*\*\*\*\* IX - TOXICOLOGY & ECOTOXICITY INFORMATION \*\*\*\*\*

The toxicity and ecotoxicity information provided below is for this substance and a closely related substance.

## TOXICITY

### ACUTE

For Bardac LF

- oral LD<sub>50</sub> (mouse): 360 mg/kg; 375 mg/kg (2 tests)
- dermal LD<sub>50</sub>: 259 mg/kg; 247 mg/kg (86% active 3 tests)
- dermal toxicity (rabbit) No significant negative effects observed for exposures of 4ml of 2000 ppm per day for 20 days
- inhalation LC<sub>50</sub> (rat - 1 hour): 10 mg/l (50% active)
- 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 (rabbit -DOT): Corrosive (50% active)

### REPRODUCTIVE/DEVELOPMENTAL (Bardac LF)

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

## ECOTOXICITY

### AQUATIC

For Bardac LF:

- LC<sub>50</sub> (rainbow trout - 96 hour): 0.7 mg/l
- LC<sub>50</sub> (bluegill sunfish - 48 hour): 0.1 mg/l
- EC<sub>50</sub> (Daphnia magna - 48 hour): 0.1 mg/l
- oral LD<sub>50</sub> (mallard duck): 240 mg/kg
- dietary toxicity test (bobwhite quail - 8-Days): 2625 mg/kg

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PAGE 5 OF 6

\*\*\*\*\* 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>
Exempt - EPA FIFRA Registered pesticide.		

### EPA REGULATION ON PESTICIDES

This product is an EPA FIFRA registered pesticide, EPA Registration No. 6836-50. This product can only be used commercially in the EPA FIFRA registered application(s) noted 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		

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-Dioctyl-N,N-dimethylammonium chloride	5538-94-3	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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PAGE 6 OF 6

\*\*\*\*\* 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>	<u>Typical Maximum Concentration</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-Dioctyl-N,N-dimethylammonium chloride	5538-94-3	50%
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%