

C 836-70, PM-31, 1/5

**Sanitizing of Food Processing Equipment and Other Hard Surfaces in Food Contact Locations.** For sanitizing food processing equipment, dairy equipment, food utensils, dishes, silverware, glasses, sink tops, countertops, refrigerated storage and display equipment and other hard non-porous surfaces. No Potable water rinse is required.

Wash and rinse all articles thoroughly, then apply a solution of 1 oz. BARDAC-205-7.5 in 4 gallons of water (1 quart per gallon). Surfaces should remain wet for at least one minute, followed by adequate draining and air drying. Fresh solution should be prepared daily or when use solution becomes visibly dirty. For mechanical application, use solution may not be reused for sanitizing applications.

Apply to sink tops, countertops, refrigerated storage and display equipment and other stationary hard surfaces by cloth or brush or mechanical spray device. No Potable water rinse is required.

Dishes, silverware, glasses, cooking utensils and other similar size food processing equipment can be sanitized by immersion in a 1 oz./4 gallon solution of BARDAC-205-7.5. No Potable water rinse is required.

At 1 oz./4 gallons BARDAC-205-7.5 fulfills the criteria of Appendix F of the Grade "A" Pasteurized Milk Ordinances 1978 Recommendations of the U.S. Public Health Services in waters up to 800 ppm of hardness calculated as CaCO<sub>3</sub>, when evaluated by the AOAC Germicidal and Detergent Sanitizer Method against *Escherichia coli* and *Staphylococcus aureus*.

The udders, flanks and teats of dairy cows can be sanitized by washing with a solution of 1 oz. BARDAC-205-7.5 in 4 gallons of warm water. No Potable water rinse is required. Use a fresh towel for each cow. Avoid contamination of sanitizing solution by dirt and soil. Do not dip used towel back into sanitizing solution. When solution becomes visibly dirty, discard and provide fresh solution.

### Precautionary Statements

**Hazardous to Humans and Domestic Animals**

## DANGER

Keep Out of Reach of Children. Corrosive. Causes eye and skin irritation. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed. Do not breathe spray mist. Avoid contamination of food.

### Storage and Disposal

- Do not contaminate water, food, or feed by storage disposal.
- Do not store on side.
- Avoid creasing or impacting of side walls.

#### PESTICIDE DISPOSAL

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray or mixture of rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### 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.

Metal Container: Triple rinse (or equivalent), then offer for recycling or reconditioning, or dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. (If container is 1 gallon or less, use this only for disposal statement.)

Do not reuse empty container (bottle, can, bucket). Wrap container and put in trash.

# BARDAC 205M-7.5

Disinfectant-Sanitizer  
Fungicide-Virucide-Deodorizer  
with Organic Soil Tolerance  
for Hospital, Institutional  
Industrial, School, Dairy and Other Farm Use

### Active Ingredients

Octyl decyl dimethyl ammonium chloride	2.250%
Didecyl dimethyl ammonium chloride	1.125%
Dioctyl dimethyl ammonium chloride	1.125%
Alkyl (C <sub>14</sub> , 50%; C <sub>12</sub> , 40%; C <sub>10</sub> , 10%) dimethyl benzyl ammonium chloride	3.000%

### Inert Ingredients

92.500%  
100.000%

KEEP OUT OF REACH OF CHILDREN

## DANGER

### STATEMENT OF PRACTICAL TREATMENT

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution; or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

SEE LEFT PANEL FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS

EPA Registration No.

6836-70

EPA Establishment No.

6836-IL-1

Net Contents

MANUFACTURED BY:

LONZA INC., 22-10 Route 208, Fair Lawn, N.J. 07410

**BEST AVAILABLE COPY**

For Sale For Use And Storage By  
Maintenance Personnel Only

### DIRECTIONS FOR USE

### GENERAL CLASSIFICATION

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Apply BARDAC-205-7.5 with a cloth, mop or mechanical spray device. When applied with a mechanical spray device, surface must be sprayed until thoroughly wetted. Treated surfaces must remain wet for 10 minutes. Fresh solution should be prepared daily or when the use solution becomes visibly dirty.

**Disinfection in Hospitals, Nursing Homes and Other Health Care Institutions.** For disinfecting floors, walls, countertops, bathing areas, lavatories, bedframes, tables, chairs, garbage pails and other hard non-porous surfaces.

Add 3.5 oz. BARDAC-205-7.5 to 4.5 gallons water. Apply to previously cleaned hard surfaces. At this use level, BARDAC-205-7.5 is effective against *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Salmonella choleraesuis*. *Pseudomonas cepacia* in the presence of 5% blood serum when evaluated by the AOAC Use-Dilution test.

**Virucidal Performance.** At a 3.5 oz./4.5 gallon use level BARDAC-205-7.5 was evaluated in the presence of 5% serum and found to be effective against the following viruses: Herpes simplex Types I and II, Vaccinia, and Influenza A<sub>2</sub> (Hong Kong) on inanimate hard non-porous environmental surfaces.

**Disinfection in Institutions, Industry and Schools.** Add 2 oz. of BARDAC-205-7.5 to 4.5 gallons of water.

**Fungicidal Performance.** At 0.5 oz. to 2.25 gallons of water use level, BARDAC-205-7.5 is an effective fungicide against *Trichophyton mentagrophytes* (the athlete's foot fungus) when used on surfaces in areas such as locker rooms, dressing rooms, shower and bath areas and exercise facilities, utilizing the AOAC Fungicidal Test.

**Disinfection of Barber Tools.** Pre-cleaned barber tools (such as combs, brushes, razors, and scissors) can be disinfected by immersing in a 0.5 oz./gallon solution of BARDAC-205-7.5.

**Disinfection of Poultry Equipment, Animal Quarters and Kennels.** Poultry brooders, watering fountains, feeding equipment and other animal quarters (such as stalls and kennel areas) can be disinfected after thorough cleaning by applying a solution of 2 oz. BARDAC-205-7.5 to 4.5 gallons of water. Small utensils should be immersed in this solution. Prior to disinfection, all poultry, other animals and their feeds must be removed from the premises. This includes emptying all troughs, racks and other feeding and watering appliances. Remove all litter and droppings from floors, walls and other surfaces occupied or traversed by poultry or other animals.

After disinfection, ventilate buildings, coops and other closed spaces. Do not house poultry, or other animals or employ equipment until treatment has been absorbed, set or dried.

All treated equipment that will contact feed or drinking water must be rinsed with potable water before reuse.

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Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 6836-70

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Bardac 205M/208M is a radically new development based upon Lonza Inc. patented "Twin Chain" quaternary ammonium compound technology. Bardac 205M/208M, when evaluated by accepted laboratory procedures, provides superior germicidal and fungicidal activity far beyond that achieved with currently available quaternary ammonium compounds. This provides the formulator with unequalled latitude in the design of biocidal systems.

### Chemical Composition

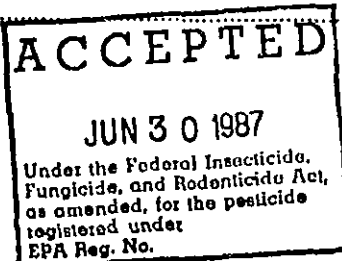
<u>Active Ingredients</u>	<u>Bardac 205M</u>	<u>Bardac 208M</u>
Alkyl (C <sub>14</sub> , 50%; C <sub>12</sub> , 40%; C <sub>16</sub> , 10%) dimethyl benzyl ammonium chloride .....	20.0% .....	32.0%
Octyl decyl dimethyl ammonium chloride .....	15.0% .....	24.0%
Dioctyl dimethyl ammonium chloride .....	7.5% .....	12.0%
Didecyl dimethyl ammonium chloride .....	7.5% .....	12.0%
<u>Inert Ingredients</u> .....	50.0% .....	20.0%

### Physical Properties

Average molecular weight .....	342	
pH (10% solution) .....	6.5—9.0	
Physical state .....	Liquid	
Color .....	Clear to light amber	
Flash point (Seta Flash) .....	116°F .....	118°F
Specific gravity @ 25°C .....	0.946 .....	0.912
	(7.89 lbs./gal.)	(7.61 lbs./gal.)

EPA Registration No. ..... 6836-66 ..... 6836-67

CAS No. ..... 68424-95-5 & 130-08-2



## Summary of Applications and Recommended Use-Levels

### Application

### Recommended Use-Levels on 100% Active Basis

Hospital Disinfection	450 ppm active quaternary
General Disinfection	250 ppm active quaternary
Sanitizing	150 ppm active quaternary

### Product Registration

The Lonza Technical Service Department will assist you with Bardac 205M/208M based formulations and EPA registration.

Prototype formulations based on Bardac 205M/208M, their EPA data base references and sample labels are available upon request. For formulations of your own development, you are responsible to provide data currently required by the EPA to support that registration.

Disinfectant and sanitizer products containing Quaternary Ammonium Compounds must be registered with the U.S. Environmental Protection Agency. Applications for registration must be accompanied by two copies of your proposed label and should be sent to Product Manager No. 31, Office of Pesticide Programs, Registration Division (TS-767C), U.S. Environmental Protection Agency, Washington, D.C. 20460. Some state agencies also require registration of your product independent of your EPA registration.

### Precautionary Statements

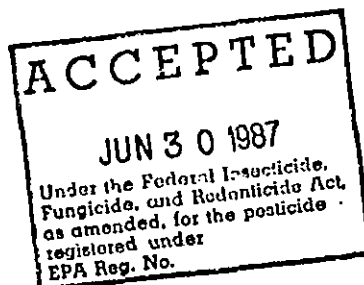
**Danger:** Keep Out of Reach of Children. Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Do not contaminate water, food or feed by storage or disposal.

**Statement Of Practical Treatment:** In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution; or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

**Note To Physician:** Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

**Container Disposal:** Dispose of in an incinerator or landfill approved for pesticide containers. Bury in a safe place or return to drum reconditioner.



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The seller makes no warranty, expressed or implied, concerning the accuracy or any results to be obtained from the use of any information and no warranty expressed or implied concerning the use of the products other than indicated above. The buyer assumes all risks of use and/or handling. No statement is intended or should be construed as a recommendation to infringe any patent.

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### Summary of the superior performance characteristics of Bardac 205M/208M:

- Better disinfectant performance.
- Broad spectrum biocidal activity against both gram positive and gram negative organisms.
- Increased hard water tolerance for sanitizing activity.
- Superior fungicidal performance.
- Substantial organic soil tolerance (in accordance with the latest EPA requirements).

### GERMICIDAL ACTIVITY

*Important Note: All microbiological evaluations were performed in the presence of an organic soil load represented by 5% blood serum; proposed EPA guidelines — Subpart G. The serum was added to the inoculum prior to the carrier drying step (or other appropriate procedure).*

### Disinfectant Activity Determined by AOAC Use-Dilution Tests

The minimum concentration of Bardac 205M/208M required for effective disinfection is described in the current procedures of the AOAC; commonly known as the Use-Dilution Test.

<u>Test Organism</u>	<u>ATCC #</u>	<u>Minimum Effective Concentration</u>
Staphylococcus aureus	6538	250 ppm active quaternary
Salmonella choleraesuis	10708	250 ppm active quaternary
Pseudomonas aeruginosa	10524	450 ppm active quaternary

The broad spectrum germicidal activity of Bardac 205M/208M was confirmed by the AOAC Use-Dilution evaluations against the following organisms:

<u>Test Organism</u>	<u>ATCC #</u>	<u>Minimum Effective Concentration</u>
Escherichia coli	11229	250 ppm active quaternary
Serratia marcesens	8101	250 ppm active quaternary
Brevibacterium ammoniagenes	6871	250 ppm active quaternary
Salmonella typhi	6539	250 ppm active quaternary
Pseudomonas cepacia	17765 25416 25608	450 ppm active quaternary

### Disinfectant Activity Determined by AOAC Use Dilution Tests In the Presence of Hard Water and Organic Soil

<u>Test Organism</u>	<u>ATCC #</u>	<u>Hard Water Concentration</u>	<u>Minimum Effective Concentration</u>
Pseudomonas aeruginosa	10524	0 ppm/CaCO <sub>3</sub>	450 ppm active quaternary
		300 ppm/CaCO <sub>3</sub>	850 ppm active quaternary
		400 ppm/CaCO <sub>3</sub>	850 ppm active quaternary
		500 ppm/CaCO <sub>3</sub>	1000 ppm active quaternary
Salmonella choleraesuis	10708	0 ppm/CaCO <sub>3</sub>	250 ppm active quaternary
		300 ppm/CaCO <sub>3</sub>	600 ppm active quaternary
		400 ppm/CaCO <sub>3</sub>	600 ppm active quaternary
		500 ppm/CaCO <sub>3</sub>	700 ppm active quaternary
Pseudomonas cepacia	17765 25416 25608	400 ppm/CaCO <sub>3</sub>	850 ppm active quaternary

### VIRUCIDAL ACTIVITY

The virucidal activity of Bardac 205M/208M was confirmed by current EPA accepted protocol against Influenza A<sub>2</sub> (Hong Kong), Herpes simplex Type 1 and Type 2, and Vaccinia at 450 ppm active quaternary.

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EPA Reg. No.

### Sanitizing Performance/Hard Water Tolerance

Bardac 205M/208M has been cleared by the FDA as an "Indirect Food Additive" under 21CFR178.1010 "Sanitizing Solutions" at a concentration of 150-400 ppm active, and requires no potable water rinse. This clearance covers the usage of Bardac 205M/208M on food processing equipment and utensils and food contact surfaces in public eating places. In addition, the use of sanitizing solutions based on Bardac 205M/208M fulfills the criteria of the Grade "A" Pasteurized Milk Ordinance 1978 Recommendations of the United States Public Health Service.

The hard water tolerance of Bardac 205M/208M is measured by the AOAC Germicidal and Detergent Sanitizer Method, commonly called the hard water tolerance test. Exposure of 100 million organisms of *Escherichia coli* (#11229) to 150 ppm of Bardac 205M/208M for 30 seconds at 25°C in 800 ppm of water hardness results in the required reduction of 99.999% of the bacteria.

Calcium and magnesium salts are typical hard water components; however, other electrolytes may be present during actual field applications.

<u>Test Organism</u>	<u>Concentration of Bardac 205M/208M Required for 99.999% Reduction</u>	<u>Hard Water Ceiling</u>
<i>Escherichia coli</i> , #11229	150 ppm	800 ppm hard water
	200 ppm	1100 ppm hard water
<i>Staphylococcus aureus</i> , #6538	150 ppm	800 ppm hard water
	200 ppm	1100 ppm hard water

### Non-Food Contact Application

The non-food contact surface sanitizing activity of Bardac 205M/208M was determined by the following test methodology: EPA DIS/TSS-10, February 6, 1979 and the Guidelines for Registering Pesticides in the United States, Subpart G - Product Performance, June 22, 1979 Draft, Recommended Method #8 (Sanitizers-Non-Food Contact Surfaces), p 101-102.

<u>Test Organism</u>	<u>Concentration of Bardac 205M/208M Required for 99.999% Reduction</u>	<u>Hard Water Ceiling</u>	<u>Contact Time</u>
<i>Staphylococcus aureus</i> (ATCC #6538)	150 ppm (active)	800 ppm	2 min
	200 ppm (active)	1100 ppm	1 min.
<i>Klebsiella pneumoniae</i> (ATCC #4352)	150 ppm (active)	800 ppm	2 min.
	200 ppm (active)	1100 ppm	1 min.

### Fungicidal Performance as Determined by the AOAC Fungicidal Test

Possessing superior fungicidal activity, Bardac 205M/208M effectively passes the AOAC Fungicidal test at one-eighth the concentration required for conventional alkyl benzyl quaternaries.

<u>Test Organism</u>	<u>Ten Minute Killing Dilution (100% active)</u>
<i>Trichophyton mentagrophytes</i>	1:8000 125 ppm

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