

# LONZA

# BARQUAT<sup>®</sup> MS-100

FOR THE MANUFACTURE, REPACKAGING OR FORMULATION OF MICROBIOCIDES

Active Ingredient: Alkyl (C<sub>14</sub> 95%, C<sub>12</sub> 3%, C<sub>16</sub> 2%) Dimethyl Benzyl  
Ammonium Chloride Dihydrate .....100%

30 Gallons/Net Weight 100 pounds

EPA Reg. No. 6836-29

ACCEPTED  
Feb 24 1977  
6836-29  
COMMENT

## 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. Avoid contamination of food.

### FIRST AID:

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 as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short-acting barbiturate drug.  
See Product Information Bulletin for Recommended Uses

**DO NOT REUSE CONTAINER.  
DESTROY WHEN EMPTY**

LONZA INC. - FAIR LAWN, N. J. - MAPLETON, ILLINOIS

## PRODUCT INFORMATION

**BARQUAT<sup>(a)</sup>**  
**MS-100**

**BARQUAT MS-100** is a special quaternary powder that can be used in formulating and dry-blending of hospital, institutional, and industrial disinfectants and sanitizers. **BARQUAT MS-100** can also be used to manufacture these products in tablet form. When tablets for the sanitizing rinse of food utensils, dishes, and glassware are based on **BARQUAT MS-100**, no final potable water rinse is required.

**BARQUAT MS-100** is a unique powdered quat which combines the following important features:

- *Excellent hard water tolerance for sanitizing*
- *FDA clearance at 200 ppm for "no rinse" sanitizing solutions*
- *Excellent hard surface disinfection*
- *Excellent water solubility*

CHEMICAL PROPERTIESActive Ingredient

Alky (C<sub>14</sub>, 95%; C<sub>12</sub>, 3%; C<sub>16</sub>, 2%) Dimethyl Benzyl Ammonium Chloride Dihydrate 100

Average Molecular Weight 404

PHYSICAL PROPERTIES

Melting Point (°C) 62-2

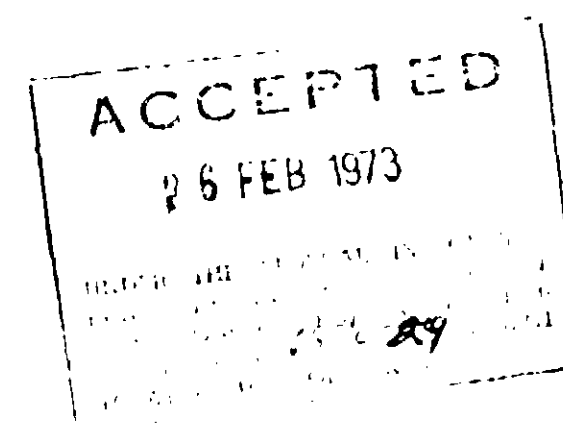
pH (10% solution in distilled water) 7-1

Solubility (at 25°C) in water 25%

in 95% ethanol 75%

EPA REGISTRATION NUMBER

6836-29



Paragraph 121.2547 of the Federal Register allows the use of **BARQUAT MS-100** in sanitizing solutions at 200 ppm active quat in the use-concentration. No potable water rinse is required.

### MICROBIOLOGICAL PROPERTIES

#### AOAC Phenol Coefficients

	<u>10 MINUTE KILLING DILUTION</u>			
	<u>ATCC NO.</u>	<u>MS-100</u>	<u>PHENOL</u>	<u>PHENOL COEFFICIENT</u>
Staphylococcus aureus	6538	1:75,000	1:60	1250
Salmonella typhosa	6539	1:65,000	1:80	813

#### AOAC Use-Dilution Tests for Germicidal Action

	<u>ATCC NO.</u>	<u>MAXIMUM EFFECTIVE DILUTION FOR DISINFECTION</u>
Staphylococcus aureus	6538	400 ppm
Salmonella choleraesuis	10708	400 ppm
Pseudomonas aeruginosa	15442	800 ppm

#### AOAC Fungicidal Method for Fungicidal Action

	<u>ATCC NO.</u>	<u>MAXIMUM EFFECTIVE DILUTION FOR FUNGICIDAL ACTION</u>
Trichophyton interdigitale	9533	1:550

#### AOAC Germicidal and Detergent Sanitizers Method for Sanitizing Action

	<u>ATCC NO.</u>	<u>HARD WATER TOLERANCE</u>
Escherichia coli	11229	800 ppm
Staphylococcus aureus	6538	800 ppm

The Germicidal and Detergent Sanitizers Method calls for an exposure of 75 to 125 million organisms of the test bacteria to 200 ppm of **BARQUAT MS-100**. In the presence of 800 ppm of water hardness, **BARQUAT MS-100** reduces this bacterial count by 99,999% in 30 seconds for both E. coli and Staph. aureus.

#### Algaecidal and Algaestatic Activity

**BARQUAT MS-100** was tested against *Chlorella pyrenoidosa* and *Phormidium inundatum* by the Fitzgerald Method. It was found to be algaecidal at 1.0 ppm and algaestatic at 0.5 ppm against both algae.

For swimming pool use, the initial application of **BARQUAT MS-100** of 2.22 ppm will clean and clear the pool of algae. This dosage should be repeated until no visible algae is present. Settled algae debris should be removed from the pool. After control is established, algae growth is controlled by a maintenance concentration of 0.74 ppm **BARQUAT MS-100** applied every 5-7 days.

To insure efficient performance, dissolve the appropriate amount of **BARQUAT MS-100** in 5 gallons of water before adding to the pool. A sample label for this application is attached.

**SUMMARY OF RECOMMENDED USE-LEVELS**

<u>APPLICATION AREA</u>	<u>RECOMMENDED USE LEVELS OF ACTIVE QUAT</u>
Hospital Areas Disinfection	800 ppm
General Disinfection	400 ppm
General Sanitization	200 ppm
Algae Control for Swimming Pools	Initial Dose: 2.22 ppm followed by a maintenance dose of 0.74 ppm every 5 to 7 days.

The efficacy of microbiocidal or microbiostatic formulations containing **BARQUAT MS-100** must be established by the utilization of the appropriate test procedures.

**PRODUCT REGISTRATION**

Disinfectant and sanitizer products containing Quaternary Ammonium Compounds, which are shipped in interstate commerce, must be registered with the Environmental Protection Agency. The appropriate applications for registration must be accompanied by five copies of your proposed label, and should be sent to the Pesticide Regulation Division, Environmental Protection Agency, Washington, D.C. 20250. Some state agencies also require similar registrations.

The Lonza Technical Service Department can assist you with your product registration.

**TOXICITY**

The Oral LD<sub>50</sub> of **BARQUAT MS-100** in rats is 600 mg/kg.

**HANDLING PRECAUTIONS**

**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 if swallowed. Avoid contamination of food.

**FIRST AID:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. For eyes, call a physician. Know 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 as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short-acting barbiturate drug.

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Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated above. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions. No statement is intended or should be construed as a recommendation to infringe any existing patent.

SAMPLE LABEL

BRAND NAME

SWIMMING POOL

ALGAECIDE

OUTSTANDING ALGAE GROWTH DEPRESSANT

ACTIVE INGREDIENT:

Alkyl (C14, 95%; C12, 3%; C16, 2%)
Dimethyl Benzyl Ammonium Chloride
Dihydrate ..... 100%

NET CONTENTS: Lbs.

Manufactured By:

DIRECTIONS

Initial Application: To a cleaned pool add 15 oz. (by weight) to 50,000 gallons of water, or ratio thereof.

Maintenance Dose: Use 5 oz. (by weight) per 50,000 gallons of water every 5 to 7 days. When weather is hot or bathing load is heavy, repeat this dosage every 5 days or as necessary.

Booster Dose: Immediately after every rain add 5 oz. (by weight) per 50,000 gallons of water as above.

To insure best results, solubilize the appropriate amount of in 5 gallons of water, then add to pool.

Important: Follow above directions without fail, even when pool is not used. Algae growth must be fought at all times.

Pool-Side Surfaces: After cleaning surfaces, use 1/8 oz. to 4.5 gallons of water for sanitizing and 1/4 oz. to 4.5 gallons of water for disinfecting.

algaeicide is efficient, economical and stable in use-dilution. It is highly concentrated and should be used with care.

is compatible with all chemicals used in pool water and will not damage tile, concrete, metal, or plastics.

keeps pool water free and sparkling, clear of visible algae, slime and green brown colors.

improves filter operation and cuts down need for other chemicals.

imparts tone and a pleasant "feel" to swimming pool water.

EPA Reg. No.

This product is toxic to fish. Do not discharge pool water into lakes, streams, ponds, or other public waters.

FIRST AID

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SEE SIDE PANELS FOR ANTIDOTE STATEMENT AND OTHER PRECAUTIONS.

Do not reuse container. Destroy when empty.

NOTE TO PHYSICIAN:

Probable mucosal damage may contraindicate the use of gastric lavage. Measure against circulatory shock as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short-acting barbiturate drug.