



ACCEPTED
 MAY 2 1974
 UNDER THE FEDERAL FUNGICIDE AND ROBOTICIDE ACT FOR ECONOMIC POISON REGISTERED UNDER NO. 18533-5 SUBJECT TO ATTACHED COMMENTS.

VARIQUAT® 80ME

GERMICIDAL CONCENTRATE

EPA REG. NO.
18533-5

ACTIVE INGREDIENTS:

| | |
|---|--------|
| Alkyl (50%C14, 40%C12, 10%C16) dimethylbenzyl ammonium chlorides..... | 80.0% |
| Ethyl alcohol | 12.0% |
| INERT INGREDIENTS: | |
| Water | 8.0% |
| Total | 100.0% |

DIRECTIONS: See Technical Bulletin for suggested uses.
 This product is toxic to fish. Do not contaminate water by cleaning of equipment or disposal of wastes. Keep out of lakes, streams, or ponds.
 Rinse empty containers thoroughly with water and discard.
 See other precautions and First Aid.

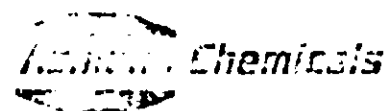
DANGER: KEEP OUT OF REACH OF CHILDREN.
 Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. Avoid contamination of food.

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 re-use. 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.

FOR FORMULATION OF GERMICIDES ONLY

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TECHNICAL DATA

VARIQUAT 80MC
Germicide

ASHLAND CHEMICAL COMPANY • DIVISION OF ASHLAND OIL, INC.
BOX 2713, COLUMBUS, OHIO 43216 • (614) 699-5333

February 1974

QUATERNARY AMMONIUM GERMICIDAL CONCENTRATE
(EPA Registration No. 14533-1)

DESCRIPTION: VARIQUAT 80MC germicide is a highly effective quaternary ammonium type used widely where disinfection and sanitizing are important. Here are some examples of applications:

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- Hospital walls and floors (See note No. 1 herein)
- Barber and beauticians instruments
- Restroom maintenance
- Food processing plants (See note No. 2 herein)
- Room and dairy cleaning (See note No. 2 herein)
- Restaurant dishes and glassware (See note No. 2 herein)

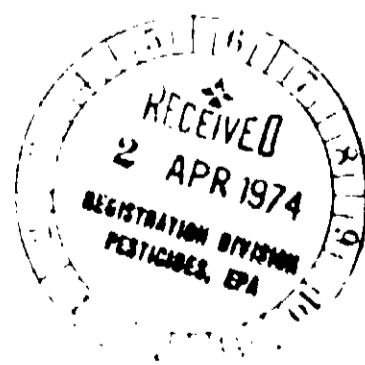
Comment

VARIQUAT 80MC is an effective sanitizer in hard water as demonstrated by the Official Methods of Analysis of the Association of Official Analytical Chemists (Eleventh Edition, Chapter 4). It was found that 200 ppm (active) of the quaternary killed 99.99% of *Escherichia Coli* in 30 seconds in water of 500 ppm hardness, expressed as calcium carbonate.

It can therefore be stated that VARIQUAT 80MC fulfills the criteria of Appendix F of the Grade A Pasteurized Milk Ordinance 1965 Recommendations of the U.S. Public Health Service in waters up to 500 ppm hardness calculated as CaCO₃, when tested by the A.O.A.C. Germicidal and Detergent Sanitizers - Official Method.

TYPICAL PROPERTIES

| | |
|--|------------------------------------|
| Form | Colorless liquid |
| pH | Neutral range |
| Solubility | Freely soluble in water or alcohol |
| Specific Gravity 25°C | 0.93; 7.8 lb/gal |
| Composition | |
| Active Ingredients | |
| Alkyl (50% C ₁₄ , 40% C ₁₂ , 10% C ₁₆) dimethylbenzyl ammonium chlorides | 80 |
| Isopropyl Alcohol | 12.0% |
| Inert Ingredient | |
| Water | 8.0% |



The effectiveness of germicides has been expressed in terms of "Phenol Coefficient" although "Dilution Concentration Test" is preferred (Official Methods of Analysis of the A.O.A.C. Eleventh Edition, Chapter 4).

The results of both testing methods using VARIQUAT 80MC are shown in this table:

GERMICIDAL EFFECTIVENESS

| | Phenol Coefficient | Use Concentration |
|-----------------------------------|--------------------|--------------------------------|
| VARIQUAT 80MC | Active Quat. | VARIQUAT 80MC Active Quat. ppm |
| Staphylococcus aureus (ATCC 6538) | 431 | 500 |
| Salmonella typhosa (ATCC 10708) | 473 | 400 |
| Salmonella choleraesuis | --- | 500 |
| Streptococcus hemolyticus | --- | 400 |
| Pseudomonas aeruginosa | --- | 500 |
| | | 800 |

When making claims for formulated products, a distinction should be drawn between the following terms:

Disinfection - Destruction of most vegetative bacteria, but not necessarily bacterial spores.

Sanitization - Reduction of bacteria to a safe level, as determined by public health requirements.

In general, claims for disinfection should only be made where a surface is to be treated after cleaning with a use level of 400 ppm active quaternary or more, on previously cleaned non-porous surfaces. Similarly, sanitizing claims can be made for solutions containing 200 ppm active quaternary.

NOTE NO. 1: VARIQUAT 80MC is not effective against the organism *pseudomonas aeruginosa* at the disinfectant concentration of 400 ppm (active). Use solutions must contain 800 ppm (active).

Use solutions are prepared by first mixing 12.5 parts (by weight) VARIQUAT 80MC in 87.5 parts water. One ounce of this solution in two gallons of water prepares a disinfecting rinse with 400 ppm active quaternary. One ounce in four gallons of water prepares a sanitizing rinse with 200 ppm active quaternary.

NOTE No. 2: Sanitizing solutions for use on food contact surfaces may contain no more than 200 ppm active quaternary. In all cases where a sanitized surface may later contact foods, a final rinse with potable water is required.

All formulated germicidal products must carry an EPA Registration Number on labels sold in interstate commerce. This is obtained from the Environmental Protection Agency, Pesticides Office, Washington D.C. 20550. Test data are required for registration.



CAUTION: Special care must be exercised when handling VARIQUAT 80MC. The following precautions must be observed.

DANGER: KEEP OUT OF REACH OF CHILDREN

Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin or 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, promptly drink 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.

This product is toxic to fish. Do not contaminate water by cleaning of equipment or disposal of wastes. Keep out of lakes, streams, or ponds.

CODE: 5645-2000

ACCEPTED WITH COMMENTS