

EPA Reg. No. 10182-45

EPA Est. No. 33909-EN-04

EPA

**VANTOCIL P  
MICROBIOCIDES**

21102

For Formulation of Disinfectants and Algicides

**ACCEPTED****15 MAR 1982****10182-45**UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENTICIDE ACT  
OR ECONOMIC POISON REGISTER.  
UNDER NO.**Active ingredient:**poly (iminolimidocarbonyliminolimidocarbonylimino)hexamethylene  
hydrochloride ..... 20%  
Inert ingredients ..... 80%**DIRECTIONS FOR USE**

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

**TECHNICAL MATERIAL FOR REPACKAGING OR REFORMULATING DISINFECTANTS, SANITIZERS, FUNGICIDES AND ALGICIDES.  
REPACKERS OR REFORMULATORS MUST OBTAIN THEIR OWN REGISTRATIONS WITH EPA.**

See T.I. Bulletin Z19 for chemical/physical properties and formulation information.

**PRECAUTIONARY STATEMENTS:****HAZARDS TO HUMANS AND DOMESTIC ANIMALS****DANGER: CORROSIVE, CAUSES EYE DAMAGE. HARMFUL IF SWALLOWED.**

Do not get concentrate in eyes. Avoid contact with skin and clothing. Avoid breathing spray or mist. Use with adequate ventilation. Wash thoroughly after handling. Wear goggles or face shield when handling concentrate. Keep container closed.

**FIRST AID:** In case of contact with concentrate, immediately flush eyes with plenty of water for at least 15 minutes and call a physician. If redness, itching or a burning sensation develops following skin contact, get medical attention.

If swallowed, drink plenty of water or milk. Do not induce vomiting. Call physician. Wash clothing and decontaminate shoes before reuse.

**NOTE TO PHYSICIAN:** The potential hazard from ingestion of concentrate is corrosive action to mucous membranes. Acute systemic toxicity is slight.**ENVIRONMENTAL HAZARDS:** This product is toxic to fish. Do not discharge directly into lakes, streams, or public waters unless in accordance with an NPDES permit. For guidance consult the regional office of the EPA.**STORAGE AND DISPOSAL**

Keep container closed when not in use. Protect from freezing. In case of leak or spill, soak up with absorbent, such as sand, earth or sawdust and shovel into waste container. Remove waste to chemical waste area and dispose of in accordance with local pollution regulations. Do not reuse empty container. Triple rinse residue from empty container and add to dilution mixture for swimming pool. Puncture or crush empty container and dispose of in sanitary landfill.

NET CONTENTS 440 lbs. (45 gals.)

MANUFACTURED IN ENGLAND  
for  
ICI AMERICAS INC.  
Wilmington, Delaware 19897



ICI Americas Inc.

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UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENTICIDE ACT  
FOR ECONOMIC POISON REGISTER-  
ED UNDER NO.

VANTOCIL® P ANTIMICROBIAL AGENT

VANTOCIL P antimicrobial agent is for use in the manufacture of BAQUACIL swimming pool sanitizer. General properties of VANTOCIL P and directions for the conversion of VANTOCIL P into BAQUACIL are provided.

PROPERTIES OF VANTOCIL P

Composition - VANTOCIL P is an aqueous solution containing 20% of the hydrochloride salt of poly(hexamethylene biguanide).

Type - Cationic

Specific Gravity -  $1.04 \pm 0.01$  at 25°C

Reaction - pH 5.0-5.5

Physical form - A slightly opalescent, clear to slightly hazy, colorless to pale yellow liquid. Deposits solid or freezes below 0°C, but regains its original clarity at temperatures about 5°C.

Solubility - Readily soluble in hot or cold water. Soluble in aliphatic alcohols, glycols, glycol ethers, but in general, insoluble in hydrocarbon and aromatic solvents.

Stability - VANTOCIL P is stable under normal storage conditions. Exposure to temperatures above 80°C for prolonged periods adversely affects its bactericidal properties. VANTOCIL P IS STABLE AT PH values up to 12.0; above this value, precipitation may occur.

Compatibility - VANTOCIL P is compatible with acids, nonionic detergents and quarternary ammonium compounds. As it is cationic, VANTOCIL P gives water insoluble precipitates with anionic surfactants, e.g., soaps, alkyl sulphates, alkylaryl

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sulphonates and anionic caramels. It is also precipitated by strong alkalis, e.g. sodium hydroxide, sodium metasilicate, trisodium phosphate and also by complex phosphates, e.g. sodium hexamethphosphate.

Surface Activity - VANTOCIL P is not surface-active. Solutions show no depressing effect on surface tension and do not give a persistent foam.

Corrosive Action - VANTOCIL P and its concentrated solutions corrode copper and certain copper alloys. Aluminum and zinc alloys, mild steel, and certain grades of PVC and polyethylene plastics may also adversely affect and/or be corroded by VANTOCIL P. Stainless steel and polypropylene are best suited for use with VANTOCIL P.

Some poorly compounded rubbers have exhibited sensitivity to VANTOCIL P with a resulting gradual degradation of the rubber. Various other adequately compounded rubbers have been found to be unaffected apart from a slight leaching of color from natural rubber after prolonged exposure.

Handling - VANTOCIL P is a liquid of low viscosity so it is easily weighed or measured. It dissolves immediately in hot or cold water. Vessels fabricated from, or lined with, stainless steel, glass or a suitable plastic or resin are suggested for the storage of VANTOCIL P.

Storage and Disposal - Keep container closed when not in use. Protect from freezing. Prevent prolonged storage above 60°C. In case of leak or spill, soak up with absorbent and shovel into waste container. Incinerate waste in permitted non-hazardous waste facility or dump in permitted sanitary landfill in accordance with local and state pollution regulations.

Toxicity - Extensive toxicity tests have shown that VANTOCIL P is of very low mammalian toxicity. The acute oral LD<sub>50</sub> for rats is greater than 4.0 g/kg body weight.

Experiments involving the application of the concentrated product to skin and eyes indicate that, as with many bactericides or detergents, it can cause eye damage and prolonged contact with skin can cause irritation. Therefore, it is recommended that eyes be protected from possible contact with the concentrate and that skin contact should be avoided. In case of accidental eye contact, immediately flush eyes with plenty of water and call a physician.

Remove any material from the skin by washing with soap and water. If redness, itching or a burning sensation develops, get medical attention. Remove any contaminated clothing and wash before reuse.

Tests with rats indicated respirable aerosol particles of VANTOCIL P at a concentration of  $0.025 \text{ mg/m}^3$  in air produced pulmonary irritation. No other side effects were evident at this level. Inhalation of VANTOCIL P as respirable particles (i.e. size less than 7 microns) should be avoided by use of efficient face masks or respirators. This particle size is likely to be formed by pressured aerosols or fogging apparatus.

For further details on the safe handling of VANTOCIL P, refer to the Material Safety Data Sheet.

#### MANUFACTURE OF BAQUACIL FROM VANTOCIL P

Vantocil P is converted to BAQUACIL by adding FD&C No. 1 blue dye at a level of .0004% w/w (1.6 gms dye/100 gals BAQUACIL). It has been determined experimentally that direct addition of the dye to BAQUACIL results in its incomplete solubilization. If however, the dye is first dissolved in a small amount of distilled water it can be added to BAQUACIL with no solubility problems.

#### FOR YOUR PROTECTION

The information and recommendations set forth above are, to the best of our knowledge, reliable. Suggestions made concerning uses or application are only the opinion of ICI Americas and you should make your own tests to determine the suitability of this information for your own particular purposes. However, because of numerous factors affecting results, ICI Americas makes no warranty of any kind, expressed or implied. Statements herein, therefore, should not be construed as representations or warranties of any kind. Further, the statements which we have made above concerning the use of the products described are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of such use is assumed.

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