

VANTOCIL® IB

MICROBIOCIDES

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY. HARMFUL IF SWALLOWED. DO NOT GET CONCENTRATE IN EYES OR CLOTHING. AVOID CONTACT WITH SKIN. AVOID BREATHING VAPOR OR MIST. WEAR GOGGLES OR FACE SHIELD WHEN HANDLING CONCENTRATE. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. WASH CLOTHING AND DECONTAMINATE FOOTWEAR BEFORE REUSE. MAY CAUSE ALLERGIC SKIN REACTION.

ENVIRONMENTAL HAZARDS: THIS PESTICIDE IS TOXIC TO FISH. DO NOT DISCHARGE EFFLUENT CONTAINING THIS PRODUCT INTO LAKES, STREAMS, PONDS, ESTUARIES, OCEANS OR OTHER WATERS UNLESS IN ACCORDANCE WITH THE REQUIREMENTS OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND THE PERMITTING AUTHORITY HAS BEEN NOTIFIED IN WRITING PRIOR TO DISCHARGE. DO NOT DISCHARGE EFFLUENT CONTAINING THIS PRODUCT TO SEWER SYSTEMS WITHOUT PREVIOUSLY NOTIFYING THE LOCAL SEWAGE TREATMENT PLANT AUTHORITY. FOR GUIDANCE, CONTACT YOUR STATE WATER BOARD OR REGIONAL OFFICE OF THE EPA.

STORAGE AND DISPOSAL:

PROHIBITIONS: DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL. OPEN DUMPING IS PROHIBITED.

PESTICIDE DISPOSAL: WASTES RESULTING FROM THE USE OF THIS PRODUCT MAY BE DISPOSED OF ON SITE OR AT AN APPROVED WASTE DISPOSAL FACILITY.

CONTAINER DISPOSAL: METAL CONTAINERS: TRIPLE RINSE (OR EQUIVALENT), THEN OFFER FOR RECYCLING OR RECONDITIONING, OR PUNCTURE AND DISPOSE OF IN A SANITARY LANDFILL OR BY OTHER APPROVED STATE AND LOCAL PROCEDURES.

ACTIVE INGREDIENT:
POLY(IMINOIMIDOCARBONYLIMINOIMIDOCARBONYLIMINOHEXAMETHYLENE)
HYDROCHLORIDE.....20%
INERT INGREDIENT.....80%

WARNING

KEEP OUT OF REACH OF CHILDREN

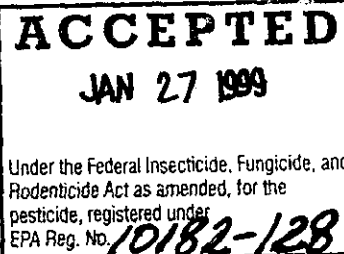
STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION.

IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

IF SWALLOWED: DRINK A LARGE QUANTITY OF WATER. DO NOT INDUCE VOMITING. AVOID ALCOHOL. CALL A PHYSICIAN.

EPA REG. NO. 10182-128
EPA EST. NO. 10182-TN-001



DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

VANTOCIL IB MICROBIOCIDES IS A HIGH-ACTIVITY MICROBIOCIDES FOR USE IN APPLICATIONS SUCH AS OIL-IN-WATER AND WATER-IN-OIL EMULSIONS, INDUSTRIAL REAGENTS, SILICONE SYSTEMS AND CELLULOSE SOLUTIONS. VANTOCIL IB MICROBIOCIDES CAN ALSO BE USED FOR THE PRESERVATION OF ANIMAL HIDES AND SKINS. SEE TECHNICAL INFORMATION BULLETIN 64-0000-025 FOR DIRECTIONS FOR USE.

NOTICE TO BUYER AND USER: SELLER WARRANTS THAT THIS PRODUCT CONFORMS TO THE CHEMICAL DESCRIPTION ON THE LABEL AND IS REASONABLY FIT FOR THE PURPOSES STATED ON THE LABEL WHEN USED IN ACCORDANCE WITH DIRECTIONS UNDER NORMAL CONDITIONS OF USE. THIS WARRANTY DOES NOT EXTEND TO THE USE OF THIS PRODUCT CONTRARY TO LABEL INSTRUCTIONS, OR UNDER ABNORMAL USE CONDITIONS, OR UNDER CONDITIONS NOT REASONABLY FORESEEABLE TO SELLER, AND BUYER AND USER ASSUME THE RISK OF ANY SUCH USE. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. STATEMENTS CONCERNING THE USE OF THE PRODUCTS OR FORMULATIONS DESCRIBED HEREIN ARE NOT TO BE CONSTRUED AS RECOMMENDING THE INFRINGEMENT OF ANY PATENT AND NO LIABILITY FOR INFRINGEMENT ARISING OUT OF ANY SUCH USE IS ASSUMED.

ZENECA

ZENECA Specialties
Wilmington
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A business unit of ZENECA Inc.

NET CONTENTS:

LOT NUMBER:

PRODUCT CODE:

VANTOCIL is a trademark of ZENECA Inc.

04130

ZENECA Biocides

VANTOCIL® IB Microbiocide

ACCEPTED

JAN 27 1989

Under the Federal Insecticide, Fungicide, and
Rodenticide Act as amended, for the
pesticide, registered under
EPA Reg. No. 10182-128

GENERAL INFORMATION

VANTOCIL® IB is a highly effective preservative for use in a wide variety of applications including oil-in-water and water-in-oil emulsions, industrial reagents, silicone systems, cellulose solutions and oil recovery systems. VANTOCIL IB can also be used for the preservation of animal hides and skins and certain textile and cellulosic products.

PHYSICAL PROPERTIES

Specific Gravity
at 68°F: 1.04 (approx.)
Density at
68°F, lb/gal 8.8 (approx.)
Flash Point,
°F(TCC): >200
Pour Point, °F: 32
pH at 77°F: 5.5 (approx.)

CHEMICAL DESCRIPTION

VANTOCIL IB is an aqueous solution of polyhexamethylene biguanide hydrochloride and is soluble in water and stable under all normal conditions of storage. The active ingredient, itself, is heat stable and nonvolatile.

COMPATIBILITY

VANTOCIL IB is a mild cationic compound and is compatible with nonionic and cationic compounds. VANTOCIL IB nonionics and cationics should be metered through separate pumps. VANTOCIL IB is not compatible with oxidizing chemicals, most anionic compounds and copper. VANTOCIL IB is precipitated by strong alkalis and complex phosphates. When doubt exists as to the compatibility of VANTOCIL IB with other compounds, bottle tests at the concentration to be used should be made with the material in question.

DIRECTIONS FOR USE

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

Product	Dosage
Silicones: Use VANTOCIL IB at levels of 100-5,000 ppm for the preservation of silicone systems such as silicone emulsions and silicone dispersions.	1 lb. to 50 lb VANTOCIL IB per 10,000 lb product
Tunnel Pasteurization: For the preservation of waters and used in tunnel pasteurization and tunnel cooling of sealed packages of canned and bottled foodstuffs, use VANTOCIL IB at levels of 100-1,000 ppm.	13 fl. oz. to 1 gal. VANTOCIL IB per 1,000 gal. tunnel pasteurization water
Aqueous Industrial Chemicals: For the preservation of aqueous industrial chemicals such as reagents, oil-in-water emulsions, water-in-oil emulsions, textile spin finish lubricants, wash water and cellulose solutions, use VANTOCIL IB at levels of 100-5,000 ppm.	1 lb. to 50 lb VANTOCIL IB per 10,000 lb product
Leather Processing: Use VANTOCIL IB at levels of 100-3,000 ppm for the preservation of leather processing solutions.	1 lb. to 30 lb VANTOCIL IB per 10,000 lb product

Product	Dosage
Aqueous Based Polymer Lattices:	
Use VANTOCIL IB at levels of 500-5000 ppm for the preservation of aqueous based polymer lattices such as polyvinyl acetate, polyvinyl alcohol. Do not use to preserve lattices used for paper coating compositions that may contact food.	5 lb. to 50 lb VANTOCIL IB per 10,000 lb product

Aqueous Mineral Slurries:	
Use VANTOCIL IB at levels of 500-5000 ppm for the preservation of aqueous mineral slurries such as calcium carbonate, titanium dioxide. Do not use to preserve slurries used for paper coating compositions that may contact food.	5 lb. to 50 lb VANTOCIL IB per 10,000 lb product

Aqueous Based Adhesives:	
Use VANTOCIL IB for the preservation of aqueous based adhesives such as animal glues, latex adhesives based on polyvinyl acetate, PVA, etc., starch, synthetic, dextrin, casein and other glues at a concentration of 500-5,000 ppm. May be used in aqueous based latex adhesives intended for food packaging applications at a maximum use level of 5,000 ppm.	5 lb. to 50 lb VANTOCIL IB per 10,000 lb product

Industrial Electrocoats:	
Use VANTOCIL IB at levels of 1,000 - 5,000 ppm for the preservation of electrocoat resins and deposition systems.	10 lb. to 50 lb. VANTOCIL IB per 10,000 lb. product

Product	Dosage
Preservation of Fresh Animal Hides and Skins:	
To preserve the integrity of fresh animal hides and skins prior to or during processing, use 15 fluid ounces to 3 gallons. Add the appropriate quantity of VANTOCIL IB to the brine solution during the curing operation or treat hides or skins with an appropriately diluted aqueous solution during other portions of the processing operation. The specific use rate and contact time needed to control microbial attack will depend upon the degree of decomposition of the hides or skins prior to treatment.	1.0-2.6 lbs of VANTOCIL IB per 1,000 pounds of hides or skins

CELLULOSIC MATERIALS AND TEXTILES

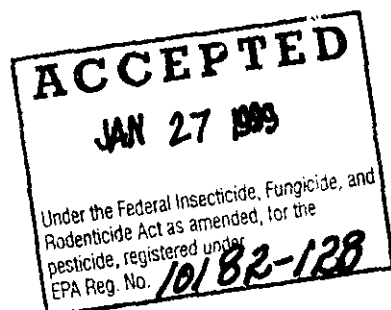
VANTOCIL IB can be used as an agent to control the growth and action of microorganisms, and control generation of odors, on textiles such as cotton, cotton blends, and cellulosic materials such as non-wovens, tissues, paper and pulps.

VANTOCIL IB is diluted and applied to give 0.025-2.0% on the dry weight of the substrate. Application is by conventional means such as padding, spraying, soaking or exhaustion. The optimum condition for application of the dilute solution are pH 6.5-8 and temperature of 20-30°C.

The following are examples of products (substrates) suitable for antimicrobial finishing with VANTOCIL IB:

Textiles such as: household products, for example upholstery, carpets, curtains, wall coverings, mops, dishcloths, yarns, cords and toweling.

Cellulosics such as: wipes, tissues, sponges, paper products (non-food contact) such as filters, and cellulose pulp.



OIL RECOVERY

Not for use in oil recovery systems which employ holding ponds for spent liquids. Do not apply in, over or near marine and/or estuarine oil fields.

Specific rates for use of VANTOCIL IB should be determined by bacteriological tests made prior to treatment. These tests should establish (a) the presence of microorganisms, (b) the severity of the problem, and (c) required treating ratio. The effectiveness of a treatment can be evaluated by similar bacteriological tests. The compatibility of VANTOCIL IB with the water should be determined prior to treatment.

Some suggested treatment methods and treating rates for water systems include:

Oil Field Injection Waters

1. SLUG METHOD - When the system is noticeably fouled, apply 4 gallons of VANTOCIL IB per 1,000 barrels of water (95 ppm of product). VANTOCIL IB should be added to the system at a point where it will be uniformly mixed. Repeat on a weekly basis, or as needed to establish control.

When microbial control is evident, the treating rate may be lowered to 2 gallons of VANTOCIL IB per 1,000 barrels of water (47 ppm of product) weekly, or as needed to maintain control.

Badly fouled systems should be cleaned before treatment is begun.

2. CONTINUOUS METHOD - Before beginning a continuous treatment, apply a slug treatment of 4 gallons of VANTOCIL IB per 1,000 barrels of water (95 ppm of product). Continue treatment by applying 0.15 to 0.8 gallons (19 to 102 ounces) of VANTOCIL IB per 1,000 barrels of water (4 to 20 ppm of product).

Drilling Muds

1. Calculate the total volume of the drilling mud system, and using this volume calculate the number of gallons of VANTOCIL IB needed to produce a concentration of approximately 3,000 ppm. For example 126 gallons of VANTOCIL IB per each 1,000 barrels of total volume will produce this concentration.

2. While the system is circulating, add the amount of VANTOCIL IB calculated above in a thin stream.
3. As the well depth increases, increasing the total volume of the system, add additional VANTOCIL IB as required to maintain the proper concentration.

Workover Fluids

1. Calculate the total volume of the workover fluid system, and using this volume calculate the number of gallons of VANTOCIL IB needed to produce a concentration of approximately 3,000 ppm. For example, 126 gallons of VANTOCIL IB per each 1,000 barrels of total volume will produce this concentration.
2. Add VANTOCIL IB into the system.
3. Circulate the workover fluid system until the fluid returns clear.
4. Shut the system down and idle for several hours.
5. Remove the workover fluid. The well should be ready for productive use.

GENERAL

VANTOCIL IB is an effective preservative in most aqueous compositions. The concentration required to give protection depends on factors such as the susceptibility of the system to microbiological degradation the extent to which microorganisms can gain access and the type of microorganisms present.

PACKAGING

VANTOCIL IB is packaged in 55-gallon drums and 5-gallon pails.

WARNING.

KEEP OUT OF REACH OF CHILDREN

Causes substantial but temporary eye injury. Harmful if swallowed. Do not get concentration in eyes or on clothing. Avoid contact with skin. Avoid breathing vapor or mist. Wear goggles or face shield when handling concentrate. Wash thoroughly with soap and water after handling. Wash clothing and decontaminate footwear before reuse. May cause allergic skin reaction.

ACCEPTED
JAN 27 1999

Under the Federal Insecticide, Fungicide, and
Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 10182-128

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STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes and get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists.

IF SWALLOWED: Drink a large quantity of water. Do not induce vomiting. Avoid alcohol. Call a physician.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not discharge into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

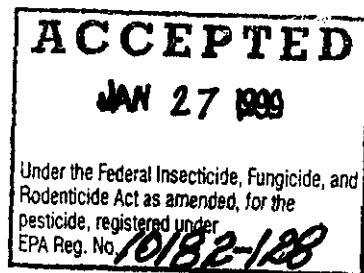
Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

SAFE HANDLING INFORMATION

Refer to the Material Safety Data Sheet (MSDS) available from Zeneca Biocides for information on the safe use, handling and disposal of this product.

For literature, sample and order information, please contact Customer Services: 800-523-7391.

For technical information, please contact Application Research and Technical Services: 302-886-8428.



VANTOCIL is a registered trademark of ZENECA Ltd.



ISO 9002
FS 22484

FOR YOUR PROTECTION

ZENECA Inc. ("ZENECA") warrants that this product conforms to the chemical description on the label and that it is reasonably fit for the purposes stated on the label when used in accordance with ZENECA's directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to ZENECA, and the buyer or user assumes the risk of any such use. ZENECA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WAR-

RANTY OF MERCHANTABILITY. (Statements herein, therefore, should not be construed as representations or warranties.)

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mulations described therein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is assumed.

ZENECA Biocides

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