

## VINYZENE® Antimicrobials

### Bacteriostatic and Fungistatic Additives for Plastic Compounds

#### PRODUCT SERIES

BP-505                      BP-505 DOP                      BP-505 PG  
BP-505 DIDP                      BP-505 S160

#### DESCRIPTION

VINYZENE antimicrobials are solutions of 10,10'-oxybisphenoxarsine (OBPA) in selected nonvolatile plasticizer carriers. They are recommended for PVC, polyurethane and other plastics and synthetic rubbers. Low concentrations of Vinyzene antimicrobials will provide long-term protection against a broad spectrum of bacterial and fungal attack and will help prevent surface growth, musty odors, permanent staining, embrittlement, and premature product failure.

#### APPLICATION

Vinyzene antimicrobials are recommended for film and sheeting, extruded profiles, plastisols, molded goods, organosols, fabric coatings and similar systems requiring an effective antimicrobial compound. These solutions are compatible with most polymer formulations and will not discolor or detract from the protected product's chemical or physical properties. Vinyzene products can be conveniently incorporated into the formulation.

Properly formulated plastics with Vinyzene antimicrobial protection will resist microbiological deterioration after long-term exposure to heat and severe weathering conditions.

Morton International can provide *microbiological susceptibility testing and assistance in developing formulations to meet your specific requirements.*

Susceptible items successfully protected with Vinyzene antimicrobials:

SHOWER CURTAINS	AUTO LANDAU TOPS
FLOOR COVERINGS	TARPAULINS
WALL COVERINGS	AWNINGS
DITCH LINERS	REFRIGERATOR GASKETS
COATED FABRICS	WEATHER STRIPPING
VINYL MOLDING	SWIMMING POOL LINERS.
MARINE UPHOLSTERY	FOAM GASKETS
CARPET UNDERLAY	WATERBED LINERS
URETHANE OUTSOLES	BACKLIT SIGNS
LEISURE FURNITURE	HOSPITAL SHEETING
	CAMOUFLAGE CLOTH

#### RECOMMENDED USE LEVELS

Interior Applications: Vinyzene BP-505 Series-0.6% based on the total weight of the compound.

Exterior Applications: Vinyzene BP-505 Series-1.0% based on the total weight of the compound.

The recommended use levels are based upon tests conducted in Morton laboratories and exposure of products to actual service conditions. Recommendations on formulation parameters for products are available from Morton International.

Vinyzene BP-505 formulations are incorporated into a compound by substituting the required level (0.6% or 1.0%) for an equal amount of plasticizer or polyol. For example, in a 1000 lbs. batch containing 300 lbs. of plasticizer and requiring a 1.0% Vinyzene antimicrobial level, 10 lbs. of the plasticizer or polyol would be replaced with 10 lbs. of appropriate Vinyzene BP-505. It is important to remember that the cost of using Vinyzene antimicrobials is, therefore, calculated as the difference in cost between the Vinyzene and the replaced plasticizer.

#### HANDLING PRECAUTIONS

In their undiluted form, VINYZENE BP-505 antimicrobials are skin irritants and contact with the skin or eyes should be avoided. If Vinyzene antimicrobial is splashed in the eyes, flush with copious amounts of water and secure immediate medical attention. If it is splashed on the skin, wash thoroughly with soap and water. Vinyzene antimicrobial solutions are harmful if swallowed and should be kept out of the reach of children.

Vinyzene antimicrobials are toxic to fish and wildlife. Vinyzene should not be discharged where it will drain into lakes, streams, ponds, or public water.

Wear eye protection and rubber gloves when handling.

Vinyzene BP-505 formulations should only be used as specified on the labeling.

To the best of our knowledge the information contained herein is correct. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN OR THE CHEMICAL TO WHICH THE INFORMATION REFERS. Nothing herein is intended as a recommendation to use our products so as to infringe any patent. We assume no liability for customer's violation of patent or other rights. The customer should make his own patent investigation relative to his proposed use.

#### TYPICAL PROPERTIES

PRODUCT	PLASTICIZER	OBPA	SPECIFIC GRAVITY 25°C	FLASH POINT (COC)	OH#
BP-505 DIDP	disodecylphthalate	5	0.993	205°F	
BP-505 DOP	di 2-ethylhexylphthalate	5	1.007	215°F	
BP-505 S160	butylbenzylphthalate	5	1.013	215°F	
BP-505	epoxidized soybean oil	5	0.997	255°F	
BP-505 PG	polypropylene glycol	5	1.031	215°F	147

EPA Registration Number: 2828-125                      Standard Package: 450# steel drum                      U.S. Patent No. 4,663,077

MORTON THIOKOL INC.

Ventron Division



VINYZENE<sup>®</sup> ANTIMICROBIALS

Microorganisms Which Are Controlled By

10,10'-Oxybisphenoxarsine (OBPA)

FUNGI

Alternaria tenuis  
Alternaria brassiciola  
Aspergillus clavatus  
A. flavus  
A. niger  
A. oryzae  
A. terreus  
A. ustus  
A. versicolor  
Aureobasidium (Pullularia) pullulans  
Candida guilliermondii  
C. lipolytica  
C. pelliculosa  
C. tropicalis  
Chaetomium globosum  
Cladosporium resinae  
Fusarium moniliforme  
Gliocladium virens (Trichoderms sp.)  
Helminthosporium gramineum  
Memmoniella echinata  
Mucor racemosus  
Myrothecium verrucaria  
Penicillium citrinum  
P. expansum  
P. funiculosum  
P. lilacinum  
P. luteum  
P. piscarium  
P. variabile  
Rhizopus nigricans  
Spicaria violacea  
Trichophyton mentagrophytes  
Penicillium islandicum

BACTERIA

Aerobacter aerogenes  
Bacillus cereus  
Bacillus subtilis  
Desulfovibrio desulfuricans  
Escherichia coli  
Klebsiella pneumoniae  
Pseudomonas aeruginosa  
Salmonella choleraesuis  
S. typhimurium  
S. typhosa  
Staphylococcus aureus

ACTINOMYCETES

Streptomyces rubrireticuli  
Streptoverticillium reticulum  
Thermoactinomyces vulgaris

This list includes test organisms specified in all of the mildew resistance tests commonly used in North America. Further, these indicator organisms are generally considered more difficult to control than the problem decay and odor-causing bacteria and fungi encountered under conditions of use. Therefore, this list represents only a fraction of the microorganisms that can be controlled by OBPA.