



VINYZENE™ SB-1

Antimicrobial Additive for Plastics

General

VINYZENE™ SB-1 is a concentrate of 10,10'-oxybisphenoxarsine (OBPA) in a polymeric resin carrier supplied as a homogeneous solid in pelletized form. It is recommended for PVC and other polymeric compositions requiring preservation against fungal and bacterial deterioration.

Physical Properties

The following are typical properties of VINYZENE™ SB-1; **they are not to be considered product specifications:**

Appearance:	Clear, light straw pellet
Active ingredient:	OBPA at 5%
Resin carrier:	PVC/PVA at 95%
Pellet size:	Approx. 1.5 x 1.5 mm
Bulk density (ASTM-D 1895):	375 kg/m ³
Torque rheometer viscosity (Rheocord):	590 metre-grammes
Glass transition temp.:	70°C (150°F)
Melting point (ASTM D3418):	72°C (161°F)

Applications/ Directions for Use

The most commonly used methods for preserving plastics against fungal and bacterial attack are to add liquid solutions of additives (such as the VINYZENE™ BP-505 series) or to add pure active ingredient in powdered form. Such highly concentrated powders must be handled with extreme caution; they can present hazards due to dusting problems and can cause contamination of processing equipment.

Liquid systems have eliminated the dusting problem, but care still has to be taken to minimize contact with skin and eyes.

The pelletized form of VINYZENE SB-1 not only eliminates dusting problems but reduces the need for special handling.

VINYZENE SB-1 is compatible with most thermoplastic resins and will not discolor or detract from the product's chemical or physical properties. It can be incorporated into the resin compound at any convenient stage of the manufacturing process.

The product can be fed into an extrusion operation in much the same way as pelletized color concentrates. Since VINYZENE SB-1 is soluble in most common coating and printing ink solvents, it can be added directly to the vehicle during manufacture. OBPA is resistant to leaching and is non-volatile at normal coating and plastic processing and use temperatures.

Recommended Use Levels

Effective preservation against the growth of bacteria and fungi can be obtained with low levels of VINYZENE™ SB-1. Addition levels depend on the fungal and bacterial susceptibility of the product, the amount of preservation required, the end use of the product and the degree of exposure to outdoor weathering or other conditions favorable for fungal and bacterial growth.

The following recommended use levels are based upon tests conducted in Dow laboratories and experience with exposure of products to actual service conditions.

Interior Applications – such as PVC floor and wall coverings, coated fabrics, interior automotive parts, refrigerator gaskets, shower curtains - use 0.6% of VINYZENE™ SB-1 based upon the total weight of the formulation (6 kg/1000 kg of compound).

Exterior Applications – such as automotive landau tops, exterior automotive trim, tarpaulins, awnings, ditch and pool liners, marine upholstery, – use 1.0% of VINYZENE SB-1 based upon the total weight of formulation (10 kg/1000 kg of compound).

Fungal and bacterial activity under severe outdoor exposure is influenced by the overall weatherability of the plastic system. Fungal and bacterial susceptibility testing and assistance in developing formulations to meet your specific requirements are available from Dow Microbial Control.

Handling and Storage

Handling: Avoid contact with skin. Wash after handling. Do not contaminate water by cleaning of equipment or disposal of waste.

Storage: Do not store this material near food or drinking water. Keep container tightly closed when not in use. At high concentrations biocides are dangerous if released in the environment. Consequently any release should be avoided. In case of accidental spill take all necessary actions to recover the product and dispose of according to local regulations.

Please read and apply recommendations written in the corresponding Safety Data Sheet (SDS) applicable in your country.

Packaging

25 kg net fibre drum.

Disposal of Packaging: Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption or where skin contact can occur.

Product Stewardship

When considering the use of any Dow product in a particular application, review the latest Safety Data Sheet (SDS) and country-specific product label to ensure the intended use is within the scope of approved uses. Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including Safety Data Sheets (SDS), should be consulted prior to use of Dow products. Current Safety Data Sheets are available from Dow.

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