



## BIOBAN™ O 45 Antimicrobial

EPA-Registered biocide

EPA Reg. No. 707-100

### General Description

BIOBAN™ O 45 Antimicrobial, previously sold as SKANE™ M-8 Microbicide, is a highly effective industrial mildewcide recommended for coatings, latex and solvent based paints, semitransparent stains and solid stains, building materials including elastomeric roof and wall coatings, caulks, sealants, joint cements, spackling, stucco, and grout, wallpaper pastes and adhesives, aqueous adhesives and tackifiers, and leather. BIOBAN O 45 offers effective, broad-spectrum protection against fungi (yeast and mold) in the wet state during manufacture and storage as well as dry-film protection against mold and mildew following application of the coating/building material.

### Regional Product Availability

- United States and Canada
- Latin America including Mexico

### Composition

- 45% 2-n-octyl-4-isothiazolin-3-one (OIT)
- 53-55% Propylene glycol

### Physical Properties

Appearance	Yellow to amber liquid
Active ingredient (AI)	2-n-octyl-4-isothiazolin-3-one
Concentration	45% minimum
Carrier solvent	Propylene glycol
pH	2.4 (10% solution)
Melting point	<-20°C (-4°F)
Boiling point (760 mmHg)	188°C (370°F)
Flash point	93°C (199°F)
Viscosity, Brookfield (20°C)	40 cP
Density	8.5-8.7 lb/gal
Specific gravity (H <sub>2</sub> O = 1)	1.034
Bulking value	0.116 gal/lb
Storage stability	Excellent
Color (VCS)	8 max.

## Applications and Directions for Use

The actual required concentration of BIOBAN™ O 45 Antimicrobial depends on several factors including: the climatic conditions where the paint will be applied, the level of desired performance, the type of paint produced, and the amount of zinc oxide in the formulation. The condition of the surface and number of coats applied are also significant.

The level of mildew protection obtained is proportional to the amount of BIOBAN O 45 Antimicrobial. Up to four pounds of BIOBAN O 45 Antimicrobial per hundred gallons may be used in paints used in mildew-prone areas where humid weather conditions prevail. Lower levels – such as two pounds in a primer and one pound in a topcoat – provide satisfactory performance in dryer or cooler climates.

The table below lists the end use applications for BIOBAN O 45 Antimicrobial in the United States and Canada. Note: Concentrations are written as parts per million (ppm) BIOBAN O 45 product, as supplied. A dosage of 1,000 ppm is equivalent to 0.10%, or 1.0 pound biocide per 100 gallons paint (assuming the paint/building material's density is 10 pounds per 1 gallon). Consult product label for dosing instructions.

End use application	US EPA		Canada PMRA	
	Minimum	Maximum	Minimum	Maximum
Coatings	1000 ppm	4000 ppm	1000 ppm	3922 ppm
Latex based paints--exterior	1000 ppm	4000 ppm	1000 ppm	3922 ppm
Solvent based paints--exterior	1000 ppm	4000 ppm	1000 ppm	3922 ppm
Semi-transparent and solid stains	1000 ppm	4000 ppm	1000 ppm	3922 ppm
Building materials	1000 ppm	3000 ppm	1000 ppm	1919 ppm
Wallpaper pastes and adhesives	1000 ppm	1500 ppm	668 ppm	1000 ppm
Aqueous adhesives and tackifier	1000 ppm	2000 ppm	1000 ppm	1919 ppm
Leather	140 ppm	431 ppm	N/A	N/A

When BIOBAN O 45 Antimicrobial is used in conjunction with zinc oxide, which is a mildewstat, a unique performance enhancement effect on the mildew resistance of the paint occurs.

The final selection of levels of BIOBAN O 45 Antimicrobial and zinc oxide will depend on the level of protection needed as well as formulation cost. In select areas, depending on climatic and paint surface conditions, some coatings manufacturers may elect to use BIOBAN O 45 Antimicrobial without zinc oxide. For maximum protection in mildew prone areas (e.g., Southeastern U.S.), the formulation may require the use of zinc oxide, along with higher levels of BIOBAN O 45. Advantage should be taken of this synergism to attain the best possible cost/performance relationship in a paint formulation. Ten pounds of zinc oxide per hundred gallons is the minimum level recommended to stabilize BIOBAN O 45 Antimicrobial in the presence of amines in latex formulations.

Zinc oxide is not needed for stability in solvent-based paint formulations; however, it provides increased mildewcide protection.



The table below lists the materials of compatibility for BIOBAN™ O 45 Antimicrobial. Testing was conducted at ambient temperatures up to 40°C.

<b>Compatible</b>			
<b>Metals</b>	<b>Plastics</b>	<b>Elastomers</b>	<b>Fiberglass Reinforced Polyester &amp; Coatings</b>
Hastalloy C276	High Density Polyethylene (HDPE)	Kalrez 4079	Vinyl ester (Derakane 411/470)
	FI-High Density Polyethylene (FI-HDPE)	Viton	Vinyl Ester (Plasite 4300)
	CPVC	Buna-S	Ceilcote 650
	Polypropylene	EPDM (Nordel)	Based Phenolic
	Ryton	Hypalon	Epoxy AR100V1 /MD1V
	Teflon	Butyl rubber	Epoxy LP100/61-2
<b>NOT Compatible</b>			
<b>Metals</b>	<b>Plastics</b>	<b>Elastomers</b>	<b>Fiberglass Reinforced Polyester &amp; Coatings</b>
Carbon Steel	Poly Vinyl Chloride (PVC)	Natural rubber	Epoxy Phenolic (Plasite 7122)
316 SS		Buna N (nitrile)	Elastomeric (Calvinac Flexcote 100)
316L SS		Neoprene	Archcoat 500D / 700D
316Ti-SS*			Epoxy AR100/MD6
304 SS			Epoxy AR100V.Clux
304L SS			Epoxy Hycote 175
Monel 400			Epoxy AR100V/MDV2
Alloy 20			

\* Titanium stabilized 316 can have variable metallurgy and some versions are not compatible with the BIOBAN O 45 formulation.



**Handling  
Precautions**

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

The processing and use of industrial chemicals require adequate technical and professional knowledge. In general, avoid eye and skin contact, wear safety goggles, gloves, and protective clothing.

Material is CORROSIVE. Do not get in eyes, on skin, or clothing. Causes eye damage and skin burns. May cause allergic skin reaction.

Do not mix neat (concentrated) biocides with other neat biocides. Biocides at use-level concentrations can be mixed within a final product (example: paint).

The legal requirements prevailing in your country, especially on working hygiene and in the avoidance of accidents, must be observed.

**Storage**

For **optimal** shelf life, store between 20°C and 25°C (68°F and 77°F). Do not store below 1°C (34°F) or above 37°C (99°F). BIOBAN O 45 should be stored in original containers in a cool and shaded area.

BIOBAN O 45 in original containers under appropriate storage conditions will have a shelf life of 5 years from the date of manufacture.

**Disposal  
Considerations**

Dispose of in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner. It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations.

**Product  
Stewardship**

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.

**Advanced  
Sustainable  
Microbial  
Control**

Dow is a proven global leader that is fearlessly committed to Advanced Sustainable Microbial Control – developing enabling and necessary chemistries that do their job effectively and then go away, without harming human health or the environment.



## 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. When considering the use of any Dow product in a particular application, review the latest SDS and country-specific product label to ensure the intended use is within the scope of approved uses and can be accomplished safely. 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.

For further information, please contact your Dow representative, visit our website: [www.dowmicrobialcontrol.com](http://www.dowmicrobialcontrol.com), or call:

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