

POLYPHASE® AF3

Dry-Film Preservative

**Paints & Coatings
& Material Protection/US**

EPA Registration No.: 5383-77

Polyphase® AF3 is a fungicide solution for use in aqueous and solvent systems. It is effective against a wide variety of fungal organisms and can be used to protect both interior and exterior products from fungal growth.

Application & Use

Polyphase® AF3 offers fungal protection in paints and wood protective stains. Polyphase® AF3 provides fungal control in wood preservation as well as preventing fungal growth in the following industrial applications: adhesives, textile applications, canvas and cordage, cutting oils, ink systems, plastics, and paper coatings. The preservative is recommended to protect both interior and exterior products from the growth of fungal organisms on the end-use product. Polyphase® AF3 is best suited for solvent-based applications but can be used in certain water-based systems. It is suitable for systems with a pH of <9 and at a temperature up to <60°C.

Product Highlights

- Full-spectrum protection
- Water- & solvent-based system compatibility
- Carrier solvent is a coalescent for waterborne coatings
- Low odor
- Globally approved active ingredient

Physical Properties

The following are typical properties of Polyphase® AF3; they are not to be considered product specifications.

Appearance:	Clear yellow liquid
Specific Gravity, 25°C:	1.1
pH (as is)	6.93
Color (Gardner)	5
Lbs./Gallon (25° C)	9.2

Active Substance

30.0%	3-Iodo-2-propynyl butyl carbamate	IPBC	 <p>IPBC C₈H₁₂INO₂</p>
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Formulating Considerations

Polyphase® AF3 can be added to formulations at any stage of the manufacturing process. Polyphase® AF3 is particularly well suited for use in mineral spirits based systems, water-reducible alkyd systems, and other polar solvent systems. Degradation of the active ingredient in this formulation can cause yellowing in certain formulations. Polyphase® AF3 is not compatible with all water-based systems. If compatibility issues are observed, Troy recommends evaluation of Polyphase® AF1, Polyphase® PW40, or Polyphase® P20T which are more broadly compatible with water-based systems.

All suggested use applications should be evaluated for final product efficacy, color uniformity, and for pH, temperature, and storage stability.

White and light colored exterior coatings should be checked for color stability on exposure. If yellowing occurs during the drying cycle, it is generally transitory in nature.

Do not store formulated products for prolonged periods in unlined iron or steel containers, as the degradation of the active ingredient is corrosive. For formulations containing containing driers, raw oils and/or transition metal pigments, Arxada recommends use of Polyphase® 641 in lieu of Polyphase® AF3.

Due to various possibilities of application and different methods of processing, it is advised to check compatibility in the development of new products. Contact your Arxada representative for assistance.

Shelf-life is 24 months from date of manufacture.

Function/Activity

The following suggested use levels are based on laboratory tests and are typical for the applications indicated. The actual level required for your system is formulation specific. The selection of the individual components of the formulation, the substrate to be coated, and the environment in which the coating will be exposed all have an influence on the amount of protection needed. Suggested use levels are reported as percentage of the end-use product.

Paint and Coatings

Polyphase® AF3 has been shown to be a fungal control agent in both water- and solvent-based paints and coatings. Polyphase® AF3 will impart dry film protection in both systems. In hot, humid areas where fungi are a particularly severe problem, the upper application levels are suggested. Polyphase® AF3 should be added with good agitation at the end of the manufacturing cycle.

Millwork

Polyphase® AF3 is also suggested for use on millwork to prevent the growth of mildew, sapstain, and other fungi. Wood treated with Polyphase® AF3 does not change in appearance and can be painted when dry. These formulations can be applied by either dipping, spraying, or brushing.

Wood Protection/Preservation

Polyphase® AF3 offers protection against fungi when formulated in organic solvent or water-based wood protective systems.

Adhesives (Non-Food Contact)

Polyphase® AF3 prevents the growth of fungal organisms in both the wet- and dry-film stage.

Polyphase® AF3 should be added at the end of the production cycle with good agitation.

Function	% Wt/Wt
Paints & Stains	1.00 - 2.50%
Plastics	0.17 - 2.00%
Cutting Oils	0.10 - 1.75%
Wood	1.60 - 6.00%
Textiles	0.20 - 4.00%
Paper Coatings	0.50 - 2.00%
Canvas & Cordage	1.00 - 4.00%
Adhesives	0.09 - 2.00%
Inks	0.20 - 3.50%

Packaging

Polyphase® AF3 is packaged in:

Package Type	Net Weight
Pail	40 lbs / 18.1 kg
Small Drum	100 lbs / 45.4 kg
Large Drum	500 lbs / 226.8 kg
Tote	2500 lbs / 1133.9 kg

Product Safety & Additional Information

For handling, storage, health, and safety information and disposal procedures, as well as additional information, please refer to the Safety Data Sheet (SDS) and label.



For more information visit:
www.arxada.com

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