Industrial Solutions

Materials Protection

Lonza

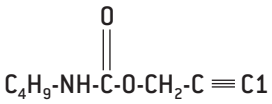
Omacide™ IPBC 30 DPG Industrial Fungicide

For Use in Metalworking Fluids

All types of aqueous based coolants are susceptible to contamination from bacteria, yeast, and mold. Regardless of the type of coolant, bacteria are the most frequently detected microbes in used coolant. Fungi (yeast and mold), while usually present, are not as easily detected by conventional methods, because the filamentous mycelial forms of mold tend to accumulate in machine crevices, in piping, on sump walls, gear boxes and other solid surfaces. Routine attempts to completely eliminate bacteria through continual use (and sometimes overuse) of bactericides alone usually result in conditions that encourage the growth of fungi. Heavy fungal contamination can often require both mechanical and chemical treatment. Dumping, cleaning and recharging fluids are costly procedures. Moreover, in today's regulatory climate, disposal of used fluid can be expensive. Therefore, it is important that the preventive treatment of a system include a fungicide to ensure longer system life and savings on replacement, cleaning, and disposal costs.

Omacide™ IPBC 30 DPG Industrial Fungicide is an effective fungicide and easily formulated into soluble oil and semi-synthetic metalworking fluid concentrates. Omacide™ IPBC 30 DPG Industrial Fungicide is a 30% blend of IPBC (the active component) in dipropylene glycol. It is registered with the United States Environmental Protection Agency (US EPA Reg. No. 1258-1230) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), for use in metalworking, cutting, cooling and lubricating concentrates. If you are considering another use, please consult with Lonza. In the United States it is a violation of federal law to use an antimicrobial agent in an application for which it does not have EPA registration.

Structural Formula



CAS No. 55406-53-6
Molecular Wt. 281.1

Typical Chemical and Physical Properties	
Minimum Assay (%)	30
Inerts (%)	70
Color	Pale amber
Odor	Mild, ester-like
Solubility in water	Slight
Melting Point, (decomposes)	65°C

Solubility

Solvent	Approximate %
Water	0.015
Ethylene Glycol	5
Propylene Glycol	10
Naphthenic Petroleum Distillate (100 SUS)	9.0
Water Insoluble Polyalkylene Glycol	20
Alkoxylated Linear Alcohol	20
Diethylene Glycol	30
Alkanolamines	30
Dipropylene Glycol	30
Polyeythylene Glycol (400, 600MW)	40
Water Soluble Polyalkylene Glycol	40
Ethylene Glycol Monobutyl Ether	45

Above you will find a solubility listing for IPBC in several solvents, at ambient temperature.

Antimicrobial Activity

Below is a summary of data obtained using a test designed to evaluate the effectiveness of Omacide™ IPBC 30 DPG Industrial Fungicide in two metalworking fluid formulations. One hundred mL of appropriately diluted fluid were placed into two hundred fifty mL Erlenmeyer flasks. The flasks were challenged weekly with laboratory strains of Cephalosporium sp. and Fusarium sp. The challenged fluids were maintained on an orbital shaker, plated weekly, and enumerated for survivors. Sample data observed under one set of test conditions are as follows:

	4 weeks (CFU/mL)	8 weeks (CFU/mL)
Soluble Oil Control	10^5	10^5
+330 ppm biocide	<10	<10
Semi-Synthetic Control	10^5	10^5
+330 ppm biocide	<10	<10

Source: Lonza internal testing; data on file

Results of this test show Omacide™ IPBC 30 DPG Industrial Fungicide is effective at controlling fungal growth in these metalworking fluids. Due to the many different types of available formulations, raw materials and differences in fluid systems, we recommend the user or formulator to determine the effectiveness of this product in their own systems. Lonza experts are available for consultation on methods and techniques. A sample analytical procedure for determining Omacide™ IPBC 30 DPG Industrial Fungicide concentration in metalworking fluids is available on request. Users should always determine for themselves the applicability of formulation additives in their particular conditions.

Formulation Information

Omacide™ IPBC 30 DPG Industrial Fungicide can be added directly to soluble oil, and semi-synthetic metalworking fluid concentrates. IPBC is sensitive to storage in formulations that contain primary amines or the pH of the formulations is greater than 9.1. IPBC may degrade in formulations that are stored for extended periods of time at temperatures greater than 45°C.

Directions for Use

To inhibit the growth of fungi in aqueous metalworking, cutting, cooling and lubricating concentrates: Add an amount that will give up to 3333 ppm in the diluted fluid.

The amount required in the concentrate will depend on the end use dilution. For example: If the desired level of Omacide™ IPBC 30 DPG Industrial Fungicide in the diluted fluid is 333 ppm, and the end use dilution of the fluid is 5%, then a 0.666 % concentration of this product is required in the concentrate (333 ppm/0.05 = 6,660 ppm or 0.666%).

Packaging

Omacide™ IPBC 30 DPG Industrial Fungicide is available in 99.2 lb and 500 lb containers.

Safety Information

Safety Data Sheets containing appropriate health and safety advice on Omacide™ IPBC 30 DPG Industrial Fungicide are available from your nearest regional office.

Application

For product application and formulation information please refer to Omacide™ IPBC 30 DPG Industrial Fungicide product labeling.

For information on spills, call 1 800 654 6911.

For more information, visit www.lonza.com

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