

# *Technical Data Sheet*

## Clariant Dry Film Fungicides



Exactly your chemistry.

# Nipacide DFX1.

Chemical name: Combination of n-octylisothiazolinone, benzimidazole carbamate and N-3,4-dichlorophenyl-N,N1-dimethyl Urea

### Description;

Nipacide DFX1 is an aqueous dispersion dry film fungicide based on Carbendazim, Diuron and Octyl isothiazolinone. Nipacide DFX1 is effective against a wide range of fungal and algal species, responsible for the discoloration and degradation of surface coatings.

**Dry –film degradation** in paints and decorative coatings can be avoided by using the correct dry-film fungicides at the most cost effective use level. Ideal dry-film properties achieved by Nipacide DFX1 include:

- High activity against a broad range of fungi and algae
- Excellent activity at relatively low use concentrations
- Low water solubility
- pH stable
- UV stable
- **Cost effective protection**

### Applications;

Nipacide DFX1 is recommended for protection of a wide range of coating applications including water based decorative paints, wood stains and colours. Nipacide DFX1 is effective against a wide range of spoilage organisms effective over a wide pH and temperature range

### Use level;

Nipacide DFX1 should be evaluated in finished products at levels between 0.5% and 2.0%. The level of protection will depend on many factors including the end destination of coating, relative humidity, sun strength and others and can be determined by evaluation by our team of microbiologists at the Clariant Microbiology facility.

No environmental classification: required at concentrations below 0.118% Nipacide DFX1.

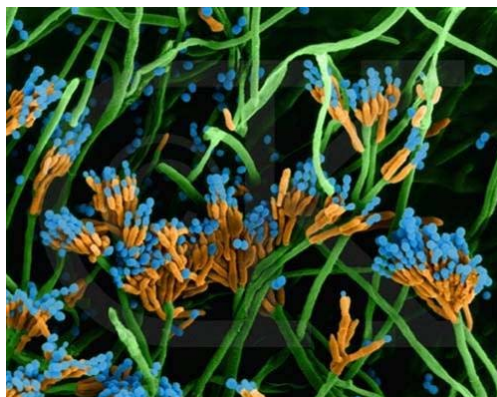
R51/53. > / = 1.179%

R52/53. > / = 0.118%

### Microbiological data;

Even though Nipacide DFX1 is designed for dry-film applications it also exhibits activity against a wide range of bacteria, fungi and yeast. This can be demonstrated by the following MIC data.

MIC Levels	Organism	MIC (ppm)
	<b>Bacteria</b>	
	<i>Pseudomonas aeruginosa</i>	1100
	<i>Pseudomonas putida</i>	800
	<i>Proteus vulgaris</i>	800
	<i>Escherichia coli</i>	300
	<i>Staphylococcus aureus</i>	100
	<b>Fungi</b>	
	<i>Aspergillus niger</i>	25
	<i>Penicillium mineoluteum</i>	25
	<i>Fusarium solani</i>	25
	<i>Geotrichum candidum</i>	25
	<b>Yeast</b>	
	<i>Candida albicans</i>	10



## Standard dry-film filter paper test after leaching

Evaluation comparing dry-film fungicides in water based coating

Coated filter paper is leached with water at a rate of 20 litres/hour for 2 hours. The filter paper is dried and placed on malt extract agar plate pre-seeded with a mixed culture of:

*Ulocladium atrum*

*Phoma violacea*

*Aspergillus vericolor*

*Aureobasidium pullulans*

*Stachybotrys chartarum*

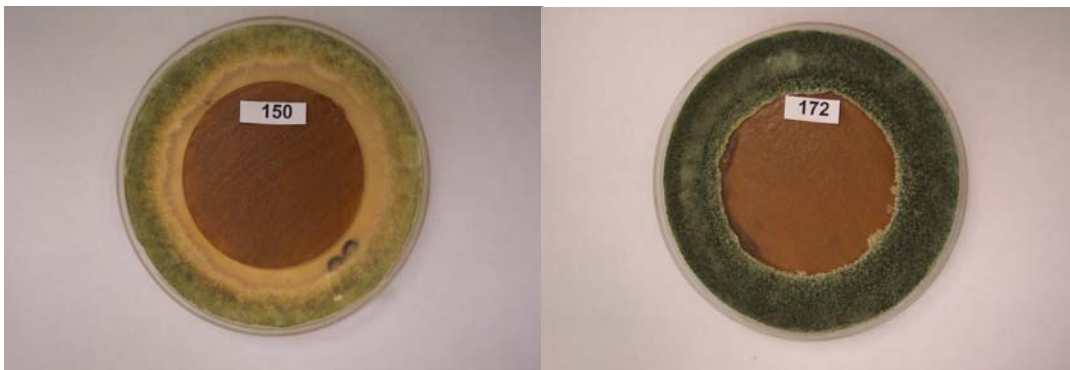
*Cladosporium cladosporioides*

*Penicillium minioluteum*

The plates are incubated at 28°C for 4 weeks and assessed for fungal growth on the coating surface.

Nipacide PZI @0.35%

Nipacide PZT @0.35%



Nipacide DFX1@0.50%

Unpreserved control



### **Chemical compatibility;**

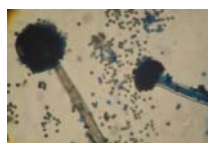
Nipacide DFX1 is compatible with most raw materials used in the manufacture of industrial and decorative coatings. Nipacide PZT compatibility should always be checked and evaluated before use.

### **Clariant Technical Service;**

Clariant technical service staff is available to assist customers in the determination of the optimum use level of biocide required to fully protect their product. A dedicated team of microbiologists are on hand at all time to assist customers with all technical enquiries relating to product protection. Full microbiological efficacy testing is available.

#### **AVAILABLE MICROBIOLOGICAL TESTING**

- **In can challenge.**
- **Dry film**
- **Chemical analysis**
- **Identification**
- **Disinfection testing**
- **Microbiological audits**



*All information is given in good faith but without warranty. Customers should ensure that their use of the products comply with specific regulations in the relevant market*