

Technical Data

Nipacide DFX/5

General Description

Nipacide DFX/5 is a low toxicity biocide specifically developed for the complete microbiological protection of water based products against algal and fungal spoilage in the dry state. Nipacide DFX/5 is a water based free flowing dispersion.

Composition

Nipacide DFX/5 is one of a comprehensive range of biocides manufactured by Clariant Chemicals (India) Ltd and is described chemically as a blend of octyl isothiazolinone, methyl benzimidazol-2-yl carbamate and a urea derivative.

Typical Properties

Nipacide DFX/5 has the following typical properties:

Property		Analysis
Appearance:		Cream Coloured Dispersion
pH (Neat) :		5.0 - 8.5
Solubility:	Water	Miscible
	Oil	Sparingly
Stability:	Light	Stable
	pH range	4-10

It should be noted that the above typical properties do not constitute a specification.

Biocidal Properties

Nipacide DFX/5 is effective against fungi and algae.

Applications

Nipacide DFX/5 is recommended for a wide range of applications including adhesives and paint where protection against fungi and algae is required in the dry state.

Use Level

The recommended use level of Nipacide DFX/5 to preserve most product types is normally in the range 0.5-2.0% based on the total weight of the finished product.

MIC Levels

Nipacide DFX/5 has a broad spectrum of activity which includes the following common spoilage organisms;

Organism	MIC (ppm)
Bacteria:	
<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
Fungi:	
<i>Aspergillus niger</i>	25
<i>Penicillium mineoluteum</i>	25
<i>Fusarium solani</i>	25
<i>Geotrichum candidum</i>	25
Yeast:	
<i>Candida albicans</i>	10

Compatibility

Nipacide DFX/5 is compatible with most raw materials used in microbiologically susceptible products. Compatibility of Nipacide DFX/5 with the application should always be checked before use.

Laboratory Service

The Clariant Technical laboratories are available to assist in the determination of the optimum use level required in a specific product. This service may be of particular use where the product is known to be susceptible to microbiological contamination or that the environmental conditions of the production plant or use application are known to enhance contamination.

Storage Conditions and Containers

Storage Conditions

Nipacide DFX/5 should be stored at temperatures within the range 4-40°C. Containers containing Nipacide DFX/5 should not be exposed to direct sunlight. Storage conditions should also be in conformance with applicable legal, fire and insurance regulations.

Shelf Life

Under correct storage conditions the normal shelf life for this product is 6 months.

Containers

Nipacide DFX/5 is available in 25kg Kegs, 200kg Drums and 1 Tonne IBC containers.

Container disposal

Prior to disposal, residual contents of containers of Nipacide DFX/5 should be drained into the product to be preserved. It is likely, however, that a small quantity of Nipacide DFX/5 will remain in the container and this should be deactivated and drained to waste. To ensure that containers are not reused, they should be pierced before disposal.

Handling

Where direct handling is necessitated, personnel should always wear protective clothing. This will include a rubber apron, suitable impervious full-length gloves and footwear. Protective chemical splash goggles should also be worn. For further details please refer to the CCIL 'Recommendations for the handling of biocides'.

Ecotoxicity

Nipacide DFX/5 is biodegradable when diluted below the minimum inhibitory concentration and does not bioaccumulate.

Toxicology

Nipacide DFX/5 toxicology is as follows:

Acute Oral LD ₅₀ (rat):	mg/kg
Sensitisation:	Components are known sensitisers
Classification:	The mixture is harmful

First Aid

Should Nipacide DFX/5 be mishandled the following procedures are recommended:

Inhalation	Move the exposed person to fresh air at once. Seek prompt medical attention.
Ingestion	Rinse mouth thoroughly with water. Seek medical attention.
Skin Contact	Promptly wash contaminated area with plenty of water. Seek medical attention.
Eye Contact	Promptly wash eyes with water. Seek medical attention.

Note: For full details on first aid measures please see the Material Safety Data Sheet.

Transport

The original containers should always be used for safe storage and transport. Should it be necessary to transfer to alternative containers please contact CCIL.

Spillage/Disposal

Spillages of Nipacide DFX/5 should be absorbed using an inert material such as vermiculite and transferred to containers for disposal. Spillages should be disposed through specialist disposal contractors and according to local regulations.

Fire/Explosion

Nipacide DFX/5 is non-flammable and non-explosive.

Other Relevant Information

Regulations:

WGK Classification:

Other:

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.