

Technical Data Sheet

Clariant In-can Biocides



Exactly your chemistry.

Nipacide BK.

Chemical name: Hexahydro-1,3,5-tris (hydroxyethyl-s-triazine)

Description;

Nipacide BK is an aqueous based low toxicity biocide developed for the complete in-can protection of water based products. Nipacide BK is effective against a wide range of microorganisms including gram positive and gram negative bacteria, yeast and fungi. Microorganisms grow at a rapid rate and without use of the correct biocide, numbers can increase dramatically.

Example of the numbers of bacteria able to grow in products if left unpreserved

- Time = 0 mins 1
- Time = 40 mins 4
- Time = 3 hrs 1024
- Time = 5 hrs 16,384
- Time = 7 hrs 1,048,576
- Time = 10 hrs 107,000,000,000

Time = 24 hrs
236,000,000,000,000,000,000,000

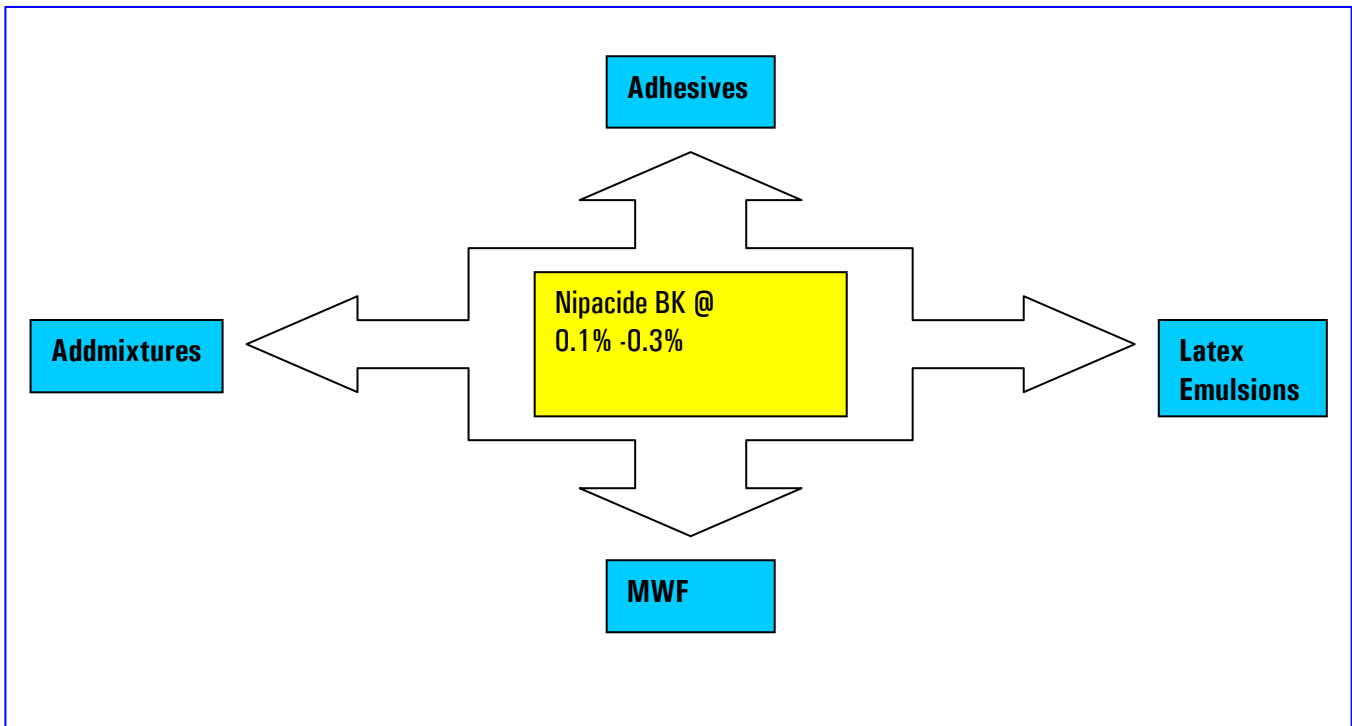
In-Can degradation in paints, polymer, metal working fluids and adhesives as a result of bacterial and fungal contamination, can result in:

- Loss of viscosity
- Gassing
- Discoloration
- Bad odors
- Product splitting
- Loss of adhesion
- Production clean down and production down time
- Loss of profit

Applications;

Nipacide BK is recommended for preservation of a wide range of applications including. Polymer emulsions, adhesives, metal working fluids, Fountain solutions and concrete add-mixtures. Nipacide BK is effective against a wide range of spoilage organisms and effective over a wide pH and temperature range.

Nipacide BK. Concentrations to be evaluated



Use level;

Nipacide BK should be evaluated in finished products at levels between 0.1% and 0.30%. Please note that use of Nipacide BK above 0.13% requires R43 hazard labeling, causes sensitization by skin contact.

Microbiological data;

Nipacide BK has a broad spectrum of activity which is demonstrated by the following MIC data.

MIC Levels	<u>Organism</u>	<u>MIC (ppm)</u>
	Bacteria	
	<i>Pseudomonas aeruginosa</i>	150
	<i>Pseudomonas putida</i>	200
	<i>Proteus vulgaris</i>	150
	<i>Escherichia coli</i>	200
	<i>Staphylococcus aureus</i>	150
	Fungi	
	<i>Aspergillus niger</i>	1000
	<i>Penicillium mineoluteum</i>	1500
	<i>Fusarium solani</i>	> 1500
	<i>Geotrichum candidum</i>	> 1500
	Yeast	
	<i>Candida albicans</i>	> 1500



STANDARD FIVE CHALLENGE TEST METHOD: Bacterial Challenge Test.

Samples Tested: Latex (carpet backing compound)

INOCULUM

The mixed Inoculum of bacteria used is as follows : -

Bacteria:

Pseudomonas aeruginosa

Alcaligenes faecalis

Proteus vulgaris

Escherichia coli

Product	Biocide	Level (%)	Standard scoring system				
			Week 1	Week 2	Week 3	Week 4	Week 5
Latex emulsion	Unpreserved	---	3	3	3	3	3
Latex emulsion	Nipacide BK	0.10	0	0	0	0	1
Latex emulsion	Nipacide BK	0.30	0	0	0	0	0

STANDARD FIVE CHALLENGE TEST METHOD: Fungal Challenge Test.

Samples Tested: Latex (carpet backing compound)

INOCULUM

The mixed Inoculum of fungi and yeast used is as follows : -

Fungi:

Fusarium solani

Geotrichum candidum

Aspergillus terreus

Yeast

Rhodotorula rubra

Saccharomyces cerevisiae

Product	Biocide	Level (%)	Standard scoring system				
			Week 1	Week 2	Week 3	Week 4	Week 5
Latex emulsion	Unpreserved	---	0	0	0	3	3
Latex emulsion	Nipacide BK	0.10	0	0	2	2	2
Latex emulsion	Nipacide BK	0.30	0	0	0	0	0

Key: 0 - Complete Kill

1 - $<10^2$ Organisms /ml

2 - $10^2 - 10^4$ Organisms/ml

3 - $>10^4$ Organisms/ml

Chemical compatibility;

Nipacide BK is compatible with most raw materials used in the manufacture of industrial products. Nipacide BK compatibility should always be checked and evaluated before use.

Clariant Technical Service;

Clariant technical service 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 times to assist customers with technical enquiries relating to product protection. Full microbiological efficacy testing is available.

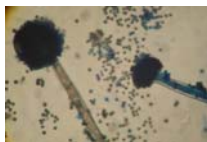
AVAILABLE MICROBIOLOGICAL TESTING

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

Regulations and approvals;

EPA Approval. EPA registration number 49403-16

WGK Classification 1: weakly water polluting



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