

Environmentally friendly and cost-competitive

Nuosept™ 515 RX in-can preservative

Biocide Preserves Aqueous Products

Water-based products are subject to microbial attack and subsequent wet-state degradation unless a functional preservative is used at the proper concentration. Paint producers are increasingly favoring green, environmentally friendly paint formulations. And manufacturers of coatings and other water-based products are looking to wring cost efficiencies from every component. To meet these requirements, we at Ashland offer Nuosept 515 RX in-can preservative with a broad spectrum of antimicrobial activity against mold, yeast and bacteria.

A high-performance liquid biocide, Nuosept 515 RX in-can preservative is a combination of isothiazolines MIT and CMIT. It has no formaldehyde, no organic solvents and does not impart color or odor. It controls organisms quickly and is effective over the pH range normally seen in coatings formulations.

Nuosept 515 RX in-can preservative also is designed for use in other water-based products such as adhesives, inks, building materials (mastics, caulks, joint cements, spackling, grouting), polymer lattice, dispersed pigments and tackifiers.

Usage and Use Levels

Nuosept 515 RX in-can preservative can be added at any time during manufacturing. We recommend adding it as early as possible in the production process for best results. Take care to ensure that the temperature, pH and the redox potential at the point of addition are suitable for the stability of the product.

The amount of Nuosept 515 RX in-can preservative required to protect a formulation depends on the susceptibility and potential contamination sources of a product. Our experience shows that a level of 0.04% to 0.33% by weight in the final formulation will protect aqueous products. We recommend testing various levels of Nuosept 515 RX in-can preservative in your product to determine appropriate use levels. To arrange for microbiological testing of your product to determine optimum use levels, contact your Ashland Specialty Ingredients representative or email us at: coatingsadditives@ashland.com.

Protect Your Water-Based Product

Nuosept 515 RX in-can preservative biocide controls a wide variety of fungi and bacteria. Table 1 shows antimicrobial activity on key organisms.

ASHLAND®

With good chemistry great things happen.™

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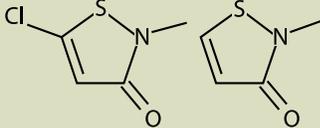
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Table 1: Agar Inhibition Data (values for active ingredients)

Test Organism	Minimum Inhibitory Concentration (MIC), ppm
Gram positive bacteria	
Bacillus subtilis	2
Cellulomonas sp.	6
Staphylococcus aureus	2
Streptococcus pyogenes	9
Gram negative bacteria	
Alcaligenes faecalis	2
Enterobacter aerogenes	5
Escherichia coli	8
Nitrobacter agilis	0.1
Proteus vulgaris	5
Pseudomonas aeruginosa	5
Pseudomonas fluorescens	2
Salmonella typhimurium	5
Yeasts	
Candida albicans	5
Rhodotorula rubra	2
Saccharomyces cerevisiae	2
Molds	
Alternaria dianthicola	3
Aspergillus niger	9
Aspergillus oryzae	5
Aureobasidium pullulans	6
Chaetomium globosum	9
Gliocladium fimbriatum	9
Penicillium funiculosum	5
Phoma glomerata	2

Table 2: Typical Properties

Chemical structure	
Chemical name	2-methyl-2H-isothiazole-3-one (MIT); 5-chloro-2-methyl-2H-isothiazol-3-one (CMIT)
Formula	C ₄ H ₅ NOS; C ₄ H ₄ ClNOS
Description	Pale yellow to green liquid
Specific gravity (H ₂ O = 1)	1.02
pH	3-5
Percent active	1.50%
Volatile Organic Content	No VOC
Odor	Mild, aromatic

- Wide range of application in water-based products
- Broad-spectrum antimicrobial activity • Fast speed of control • Formaldehyde-free
- No organic solvents: does not contribute to VOC

Regulatory requirements governing the use, registration, and approval of industrial biocides around the world are continually changing and evolving.

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