



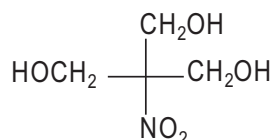
CANGUARD™ CT615 Preservative

2-(Hydroxymethyl)-2-nitro-1,3-propanediol CAS Reg. No. 126-11-4
 5-chloro-2-methyl-4-isothiazolin-3-one CAS Reg. No. 26172-55-4
 2-methyl-4-isothiazolin-3-one CAS Reg. No. 2682-20-4

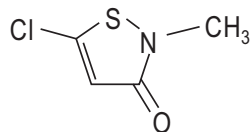
General

CANGUARD™ CT615 Preservative is a water-based, low VOCs (volatile organic compound), low color, broad spectrum biocide useful for the protection of industrial water-based products against bacteria, yeasts, and fungi. CANGUARD CT615 Preservative is a long lasting biocide that can be used under a wide range of pH and temperature conditions, for the preservation of water based systems such as polymer latexes and emulsion systems, paints, coatings, and adhesives. CANGUARD CT615 Preservative is an aqueous solution of CMIT/MIT and TRIS NITRO™.

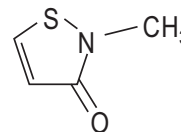
Structures



2-(Hydroxymethyl)-2-nitro-1,3-propanediol
(CAS Reg. No. 126-11-4)



5-Chloro-2-methyl-4-isothiazolin-3-one
(CMIT - CAS Reg. No. 26172-55-4)



2-Methyl-4-isothiazolin-3-one
(MIT - CAS Reg. No. 2682-20-4)

Physical Properties

The following are typical physical properties of CANGUARD CT615 Preservative; **they are not to be considered product specifications.**

Appearance: Clear, colorless to pale yellow
 pH (neat): 2-5
 Solubility in water (20°C/68°F): Completely miscible
 Viscosity (25°C/77°F): ~ 1.4 centistokes
 Density (20°C/68°F): 1.02-1.10
 pH Compatibility: 3-9.5

Special Features and Benefits

- Low VOC content
- Fast acting
- Low odor
- Cost effective
- Non-ionic
- Low color
- Broad spectrum biocide against bacteria, yeasts, and molds
- In-use pH range 3-9.5
- Compatible with most anionic, cationic and non-ionic dispersants

Antimicrobial Activity

CANGUARD™ CT615 Preservative has a broad spectrum of activity which includes these common spoilage microorganisms:

Microorganism	MIC (ppm)
Bacteria	
Klebsiella pneumoniae ATCC # 4352	195
Pseudomonas aeruginosa ATCC # 10145	293
Pseudomonas aeruginosa ATCC # 15442	293
Escherichia coli ATCC # 11229	195
Enterobacter aerogenes ATCC # 13048	293
Staphylococcus aureus ATCC # 6538	293
Fungi and yeasts	
Aspergillus niger ATCC # 16404	293
Candida albicans (yeast) ATCC # 10231	293
Saccharomyces cerevisiae (yeast) ATCC # 9763	439

The MIC values indicate the concentration of preservative needed (in ppm) to control a particular microorganism. The lower the number, the greater the effectiveness of the biocide. Although values shown do not necessarily indicate dosage levels required in the formulated product, they are indicative of the spectrum of antibacterial activity of the preservative. These are "minimum" concentrations and actual dosing should begin much higher and then be optimized, based upon preliminary testing with the product to be preserved.

Applications/ Directions for Use

For protection against microbial spoilage, a concentration of CANGUARD CT615 Preservative ranging from 0.1 to 0.4% is generally adequate. Typical applications and suggested concentration ranges are:

Product	CANGUARD CT 615 (%w/w)
Emulsion paints (in-can preservation)	0.1 - 0.2
Aqueous coatings, mineral and pigment slurries	0.1 - 0.34
Paper coatings: including rosin dispersions, starch-based and casein-based product	0.1 - 0.34
Synthetic polymer emulsions: latexes based on acrylate, butadiene, PVA, styrene	0.1 - 0.34
Household products: including laundry detergent, fabric softener, dishwashing liquids, cleaning solutions, polishes and waxes (except in aerosols)	0.1 - 0.2
Water-based adhesives: adhesives based on gelatin, latex, animal products, carboxymethyl cellulose (CMC) and derivatives	0.1 - 0.4
Tape-joint compounds, gypsum-based construction material	0.1 - 0.4

Application uses are governed by country-specific registrations. Please check with your Dow representative for information on use for your individual requirements.

Laboratory services

Dow Biocides Technical Laboratories, located globally, are available to assist in the determination of optimum use level required for a specific application. While CANGUARD™ CT615 Preservative is compatible with most raw materials used in microbiologically susceptible products, Dow Biocides can also assist with compatibility assessments for specific applications.

Compatibility with Materials of Construction

CANGUARD CT615 Preservative offers compatibility with the following materials of construction: Stainless steel, high density polyethylene, polypropylene, Teflon, Nylon.

Containers

CANGUARD CT615 Preservative is available in 25 kg plastic pails, 200 kg plastic drums, and 1 ton IBC (Intermediate bulk container).

Toxicology and First Aid

Please refer to the Safety Data Sheet.

Storage, Handling, and Disposal

Please refer to the Safety Data Sheet.

CANGUARD CT615 Preservative should be stored at temperatures within the range of 4°C to 40°C (40°F to 104°F). Containers should not be exposed to direct sunlight. Storage conditions should also be in conformance with applicable legal, fire, and insurance regulations.

Prior to disposal, the residual contents of CANGUARD CT615 Preservative containers should be drained into the product to be preserved. A small quantity of CANGUARD CT615 Preservative will likely remain in the container; this should be deactivated and drained to waste. To ensure that containers are not reused, they should be pierced before disposal.

The active ingredients in CANGUARD CT615 Preservative may be easily deactivated or neutralized by the addition of excess or acidified sodium bisulphite or sodium metabisulphite. Large excess of the deactivating solution is needed to ensure rapid neutralization. Usually ten-fold excess of a 20% neutralizing solution should completely deactivate the active ingredients. Care should be taken to prevent contact with any exposed skin of the personnel conducting the clean-up.

Since CANGUARD™ CT615 Preservative contains the active components CMIT/MIT, please also refer to CANGUARD™ CM1P5 Preservative: SAFE USE AND HANDLING GUIDELINES (FORM NUMBER 253-01796) FOR ADDITIONAL DETAILS.

Product Stewardship

Dow Biocides encourages its customers to review their applications of Dow Biocides products from the standpoint of human health and environmental quality. To help ensure that Dow Biocides products are not used in ways for which they are not intended or tested, Dow Biocides personnel are willing to assist customers in dealing with ecological and product safety considerations. Contact your representative if you need any assistance or information. When considering the use of any Dow product in a particular application, review the latest Safety Data Sheet and country-specific product label to ensure the intended use is within the scope of approved uses and can be accomplished safely. Before handling any of the products mentioned in the text, obtain available product safety information and take necessary steps to ensure safety of use.

For further information visit our website:
www.dowbiocides.com
or call:

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†except Indonesia and Vietnam

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