

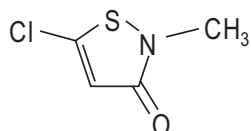


## CANGUARD™ CM1P5 Preservative

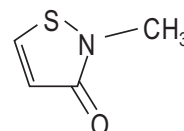
### General

CANGUARD™ CM1P5 Preservative is a broad spectrum, non-formaldehyde biocide developed for the complete protection of industrial water-based products against bacteria, yeasts and fungi. CANGUARD CM1P5 Preservative is effective in preserving polymer latex and emulsion systems, water-based paints, coatings, mineral slurries, and specialty pigments. CANGUARD CM1P5 is a 1.5% aqueous solution of 5-Chloro-2-methyl-4-isothiazolin-3-one (CMIT) and 2-Methyl-4-isothiazolin-3-one (MIT).

### Structural Formula



5-Chloro-2-methyl-4-isothiazolin-3-one  
(CMIT - CAS # 26172-55-4)



2-Methyl-4-isothiazolin-3-one  
(MIT - CAS # 2682-20-4)

### Physical Properties and Composition

The following are typical physical properties of CANGUARD CM1P5 Preservative; **these properties and composition should not to be considered as product specifications, and are meant for guidance only.**

Appearance:	Blue to blue-green liquid
pH (@ 0.1% in water, 25°C):	1.0 - 5.0
Solubility in water (20°C):	Miscible
Solubility in oil:	Miscible
Boiling point:	100°C
Freezing point:	<-10°C
Viscosity (25°C):	3 - 5 centipoise (typical)
Density (25°C):	1.02 (typical)
Stability:	Light stable
pH Compatibility:	2- 9

#### Composition:

CMIT + MIT	1.5 % min
Magnesium Chloride	1.4 - 2.0%
Magnesium Nitrate	1.0 -1.2%
Copper Nitrate. 3H <sub>2</sub> O	0.15 - 0.17%

### Special Features and Benefits

- Suitable for preservation and prevention of microbial growth in aqueous, water miscible chemicals and formulations
- Broad spectrum biocide against bacteria (including gram positive and gram negative bacteria), yeasts, and molds
- Low and economical use levels
- Rapid removal of microbial activity
- Does not depend on release of formaldehyde for effectiveness
- No organic solvents / aqueous formulation
- Outstanding chemical stability and good compatibility with most raw materials or formulations

- Compatible with a range of formulation ingredients such as anionic, non-ionic and cationic surfactants
- Stable for at least one year as supplied if recommended storage and handling guidelines are followed

## Antimicrobial Activity

CANGUARD™ CM1P5 Preservative has a broad spectrum of activity, which includes these common spoilage microorganisms:

Microorganism	MIC (ppm) active ingredient
<b>Bacteria</b>	
<i>Pseudomonas aeruginosa</i>	5
<i>Pseudomonas putida</i>	10
<i>Proteus vulgaris</i>	5
<i>Escherichia coli</i>	8
<i>Staphylococcus aureus</i>	< 5
<i>Bacillus cereus</i>	< 5
<b>Fungi</b>	
<i>Aspergillus niger</i>	10
<i>Penicillium funiculosum</i>	10
<i>Chaetomium globosum</i>	10
<i>Aureobasidium pullulans</i>	50
<b>Yeasts</b>	
<i>Candida albicans</i>	10
<i>Rhodotorula rubrum</i>	5
<i>Saccharomyces cerevisiae</i>	5

## Applications/ Directions for Use

This product should be used in a manner consistent with its product information and labeling.

CANGUARD CM1P5 Preservative is an effective preservative in most aqueous compositions. For protection against bacterial contamination, a concentration of CANGUARD CM1P5 ranging from 0.05 to 0.2 % is generally adequate. Typical applications and suggested concentration ranges are:

Product	CANGUARD CM1P5 (% w/w)
Water-based adhesives: adhesives based on gelatin, latex, animal products, carboxymethyl cellulose (CMC) and derivatives	0.05-0.2
Household products: including laundry detergents, fabric softeners, dish washing liquids, cleaning solutions, polishes and waxes (except in aerosols)	0.05-0.1
Tape joint compounds, Gypsum-based construction materials	0.05-0.2
Synthetic polymer emulsions: latexes based on acrylate, butadiene, PVA, styrene	0.05-0.17
Emulsion paints (in-can preservation)	0.05-0.1
Printing inks	0.05-0.2
Paper coatings: including rosin dispersions, starch-based and casein-based products	0.05-0.17
Aqueous coating, mineral and pigment slurries	0.05-0.17

## Storage, Handling, and Disposal

PLEASE REFER TO BIOSHARE - CANGUARD™ CM1P5: SAFE USE AND HANDLING GUIDELINES (FORM NUMBER 253-01796) FOR ADDITIONAL DETAILS.

CANGUARD CM1P5 should be stored at temperatures within the range of 4 to 40°C. Containers should not be exposed to direct sunlight. So that product label remains readable, containers should be protected from rain. Storage conditions should also conform to applicable legal, fire, insurance and local regulations.

Container disposal – Triple rinse used containers prior to disposal. Send water from cleaning of used drums to waste handling facility and dispose of containers as permitted by local regulations.

Product disposal – Dispose of unused product and contaminated soils as permitted by local regulations. Incineration is a preferred method.

## Spill Handling and Deactivation Procedures

The active ingredients in CANGUARD CM1P5 Preservative may be easily deactivated or neutralized by the addition of an excess of acidified sodium metabisulphite or sodium bisulphite. The deactivating solution should be 50 - 100 times more concentrated than the CANGUARD CM1P5 to be treated to ensure rapid neutralization. Usually 20 parts of a 10% neutralizing solution will completely deactivate one part of the active ingredient. Care should be taken to prevent contact with any exposed skin of the personnel conducting the clean up. Spills can be absorbed by appropriate inert materials such as clay, sand or vermiculite. These materials can also be treated with the same neutralizing solution, of sodium metabisulphite or sodium bisulphite, prior to disposal according to local regulations.

## 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.

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