	<i>Raw Material Specification:</i> Vinkocide CMI 1.5+	Vink Chemicals GmbH & Co. KG Eichenhöhe 29 21255 Kakenstorf	<i>Printing</i> 6/9/2017 <i>Revised:</i> 6/9/2017
---	---	--	--

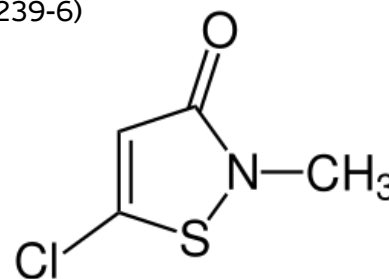
General Information:

Chemical name: 5-chloro-2-methyl-2H-isothiazol-3-one (EC no. 247-500-7)
2-methyl-2H-isothiazol-3-one (EC no. 220-239-6)

Molecular Weight: 115.2 g/mol (MIT)

149.7 g/mol (CIT)

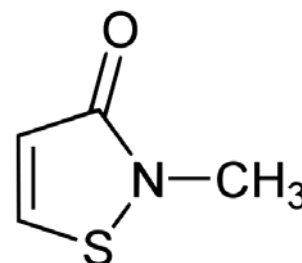
CAS Number: 55965-84-9

**Specification:**

Appearance clear, light green

CIT/MIT / % w/w: 1.40 – 1.60

pH 4 - 5

**Application:**

Biocide for PT 6 , 11, 12, 13.

Use biocides safely. Always read the label and product information before use.



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

PRODUCT FEATURES

Vinkocide™ CMI 1.5 products are formulations of **5-Chloro-2-methyl-2H-isothiazol-3-one (CIT)** with **2-Methyl-2H-isothiazol-3-one (MIT)**.

Synonyms of 5-Chloro-2-methyl-2H-isothiazol-3-one: 5-chloro-2-methyl-4-isothiazolin-3-one, CIT /
Synonyms of 2-Methyl-2H-isothiazol-3-one: 2-Methyl-4-Isothiazolin, MIT.

- ▶ ideal for use in aqueous and water miscible systems
- ▶ broad antimicrobial spectrum against bacteria, fungi and yeasts
- ▶ often effective where other preservatives fail
- ▶ free from formaldehyde, formaldehyde releasers, phenolics or heavy metals
- ▶ good chemical stability
- ▶ non-volatile
- ▶ excellent long-term efficacy
- ▶ belongs to the best evaluated broad-spectrum biocides

Vinkocide™ CMI 1.5 meets the highest purity standards. Impurities are often the cause of undesired side effects in terms of toxicological or technical properties. Also, the efficacy can be influenced by impurities. These are reduced to a minimum in **Vinkocide™ CMI 1.5**.

Vinkocide™ CMI 1.5 penetrates the cells of microorganisms, reacts with vital parts of the cell and inactivates important substrates and enzymes necessary to normal cell function. These relatively unspecific reactions prevent the development of microbial adaptation.



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

Vinkocide™ CMI 1.5 prevents microbial deterioration of products and the resulting effects such as:

- phase separation
- odor build up
- gas build up
- changes in viscosity
- build up of health threatening toxins

Minimum inhibition concentrations:

		MIC / ppm a.i.
Bacteria	<i>Bacillus subtilis</i>	9
	<i>Enterobacter aerogenes</i>	9
	<i>Escherischia coli</i>	9
	<i>Klebsiella pneumoniae</i>	9
	<i>Proteus vulgaris</i>	9
	<i>Pseudomonas aeruginosa</i>	9
	<i>Pseudomonas cepacia</i>	9
	<i>Salmonella cholerasuis (typhi)</i>	9
	<i>Staphylococcus aureus</i>	11,5
Fungi, yeasts	<i>Aspergillus niger</i>	9
	<i>Aspergillus oryzae</i>	11,5
	<i>Chaetomium globosum</i>	9
	<i>Penicillium funiculosum</i>	11,5
	<i>Pullularia pullulans</i>	2,3
	<i>Candida albicans</i>	9
	<i>Saccharomyces cerevisiae</i>	9

Vinkocide™ CMI 1.5 is effective against *Legionella*. Concentrations as low as 4 ppm lead to a significant reduction of *Legionella pneumophila*.



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

APPLICATIONS

Under certain physico-chemical conditions the stability of CIT/MIT can be limited. Therefore, we recommend testing the compatibility in individual formulations. For special formulations it can be desirable to combine **Vinkocide™ CMI 1.5** with further biocides. Depending on the individual demands **Vinkocide™ CMI 1.5** can be combined with most commonly used biocides. It can be used in a pH range of 3 – 8.5. Temperatures > 40 – 50 °C should be avoided.

Vinkocide™ CMI 1.5 is corrosive to metals according to test UN C1 against aluminium, grey cast iron and steel. These metals are not suitable materials except some approved high-grade steels. Such steels can be used for storage and transport.

Under normal use patterns concentrations (w/w) of 0.1 – 0.25 % are sufficient in most applications.

Product selection:

Vinkocide™ CMI 1.5 is available with different stabilizers. The selection of stabilizing salts can influence the efficacy. Usually copper salts result in a slightly higher efficiency. Also, the matrix of the formulation to be preserved is important for the selection of the right biocidal product.

Vinkocide™ CMI 1.5 is an aqueous, magnesium stabilized solution of 1.5 % CIT/MIT.

Vinkocide™ CMI 1.5 M is an aqueous, monovalent stabilized solution of 1.5 % CIT/MIT.

Vinkocide™ CMI 1.5 + is an aqueous, magnesium and copper stabilized solution of 1.5 % CIT/MIT.

Storage conditions: Prevent from freezing and keep away from high temperatures and direct sunlight. Store in original package at room temperature.

Packaging: 25 kg, 200 kg, 1000 kg
Shelf life: 24 months
12 months (Vinkocide CMI 1.5 M)



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

Recommended Applications:

PT 6 – In-can preservatives

Products used for the preservation of manufactured products, other than foodstuffs or feeding stuffs, in containers by the control of microbial deterioration to ensure their shelf life.

- dispersion paints
- dispersion plasters
- Adhesives, Glues
- Kaolin-, chalk-, starch-slurries
- Cleaning- and household Products
- wax emulsion
- building materials
- fountain solutions
- printing inks
- polymer dispersions
- sealants
- Pigment slurries
- Car care products
- concrete additives
- Leather and textile

PT 11 – Preservatives for liquid-cooling and processing systems

Products used for the preservation of water or other liquids used in cooling and processing systems by the control of harmful organisms such as microbes, algae and mussels.

- Cooling and processing systems
- Air-conditioning systems
- oil production

PT 12 – Slimicides

Products used for the prevention or control of slime growth on materials, equipment and structures, used in industrial processes, e.g. on wood and paper pulp, porous sand strata in oil extraction.

- Slimicide
- Pulp and cellulose production
- Papermaking
- oil production
- Fracking
- Flotation

PT 13 – Metalworking-fluids preservatives

Products used for the preservation of metalworking fluids by the control of microbial deterioration.

- Metal working fluids



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

REGULATIONS

- EU: For the active ingredients the transitory periods of the biocidal products regulation 528/2012/EC are valid. Intended applications: PT 6,11,12,13. Make sure that the biocide is allowed for any further downstream uses.
- Authorized as an additive for aqueous polymer dispersions in contact with food (EC/1935/2004), Ref.-No. 66755
- Meets the requirements of the EU Ecolabel 2014/312/EC (indoor and outdoor paints and varnishes)
- Meets: Framework Resolution RESAP (2004)1 on Coatings Intended to Come Into contact with Foodstuffs - Version 3 - 12 February 2009: PM/REF-No.: 43760
- Meets the requirements of: Toy Safety Directive 2009/48/EC
- EU-national: please ask us
- Germany: BAuA-No.:
- | | |
|-----------|------------------|
| CMI 1.5: | N-40205 (PT 6) |
| | N-53443 (PT 11) |
| | N-53444 (PT 12) |
| | N-53445 (PT 13) |
| CMI 1.5+ | N-52732 (PT 6) |
| | N-53447 (PT 11) |
| | N-53448 (PT 12) |
| | N-53449 (PT 13) |
| CMI 1.5 M | N-43589 (PT 6) |
| | N- 62750 (PT 11) |
| | N- 62751 (T 12) |
| | N- 62752 (PT 13) |
- Meets BfR XIV. (Plastics Dispersions)
Meets BfR XXXVI. (Paper and board for food contact)
Meets RAL UZ 102 (low emission paints)
Meets RAL UZ 12a (low emission varnishes)
Meets RAL UZ 113 (low emission floor-covering adhesives)
WGK: 3



VINKOCIDE™ CMI 1.5
VINKOCIDE™ CMI 1.5 M
VINKOCIDE™ CMI 1.5 +
-Broad spectrum preservative-

Australia:	The active ingredients are listed in the inventory of chemical substances AICS
Canada:	The active ingredients are listed in the inventory of chemical substances DSL
China:	The active ingredients are listed in the inventory of chemical substances IECSC
Japan:	The active ingredients are listed in the inventory of chemical substances ENCS
Korea:	The active ingredients are listed in the inventory of chemical substances KECI
New Zealand:	The active ingredients are listed in the inventory of chemical substances NZIOC
Philippines:	The active ingredients are listed in the inventory of chemical substances PICCS
Taiwan:	The active ingredients are listed in the inventory of chemical substances NECI
USA:	The active ingredients are listed in the inventory of chemical substances TSCA
	Meets FDA 21 CFR
	175.105 (adhesives with food contact)
	175.300 (Resinous and Polymeric Coatings)
	175.320 (Resinous and polymeric coatings for polyolefin films)
	176.170 (components of paper and paperboard in contact with Aqueous and fatty food)
	176.300 (paper slimicides)

Our recommendations regarding our products are given in good faith, but imply no corresponding liability. Our Conditions of Sales and Supply apply in all other respects.

Use biocides safely. Always read the label and product information before use.