

# ACTICIDE<sup>®</sup> 14



## Product Information

ACTICIDE<sup>®</sup> 14 is a VOC-free, concentrated, isothiazolinone based biocide for the wet-state preservation of formaldehyde sensitive formulations, for industrial water treatment and for the production of preservative products.

## Chemical and Physical Characteristics

<b>Composition:</b>	A concentrated formulation of 5-chloro-2-methyl-4-isothiazolin-3-one (CIT) and 2-methyl-4-isothiazolin-3-one (MIT)
<b>Appearance:</b>	Colourless to pale yellow liquid
<b>Odour:</b>	Mild
<b>MIT:</b>	3.40 – 3.60 %
<b>CIT:</b>	10.50 - 10.70 %
<b>DCIT:</b>	<100 ppm
<b>Total Active:</b>	13.90 – 14.30 %
<b>Density (20°C):</b>	1.230 - 1.260 g/cm <sup>3</sup>
<b>pH (20°C):</b>	2.5 - 3.0
<b>Colour (Gardner):</b>	1 – 4
<b>Mg-chloride:</b>	4.0 – 8.0 %
<b>Mg-nitrate:</b>	14.0 – 18.0 %
<b>Solubility:</b>	Fully soluble in water and most lower alcohols and glycols
<b>Stability in application*:</b>	Stable in the presence of light, over the pH range 2 - 9 and up to 60°C

## Biocidal Properties

ACTICIDE<sup>®</sup> 14 has a very broad spectrum of activity against bacteria, moulds and yeasts including the following typical spoilage organisms.

Typical Spoilage Organisms		
Bacteria	Moulds	Yeasts
Corynebacterium sp. Escherichia coli Klebsiella sp. Proteus penneri Pseudomonas aeruginosa	Aspergillus niger Aureobasidium pullulans Penicillium funiculosum Trichoderma viride	Saccharomyces cerevisiae

## Applications / Use Levels

ACTICIDE<sup>®</sup> 14 is suitable for the wet-state preservation of a wide range of aqueous products including paints, polymer emulsions, adhesives, ceramic glazes, fillers and sealants. It may be used as a tankside additive for ready-diluted metalworking fluids, for industrial water treatment, including cooling systems and papermaking and for the production of preservative formulations including those for the prevention of surface mould growth on timber, applied by vacuum impregnation.

Normal use concentrations are in the range 0.005 - 0.025%, depending on the product to be protected and the environmental conditions to which it will be exposed. The precise level required by a specific formulation can be determined by the local **Thor Microbiological Technical Centre**.

## Addition / Compatibility

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**ACTICIDE® 14** can be added at any time during manufacturing. However, it is advised to incorporate it as early as possible to give protection throughout the production process. Care should be taken to ensure that temperature, pH and redox potential at the point of addition are suitable for stability of the product.

**ACTICIDE® 14** is compatible with most formulations in which its application is recommended and it may be used in formaldehyde sensitive systems. Reducing agents, amines and other strong nucleophiles can cause degradation of the active ingredients. Users are therefore advised to carry out their own tests or seek further advice from **Thor** prior to initial application.

## Packaging / Storage / Transport / Regulatory Approvals

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<b>Packaging:</b>	25 and 200 kg plastic lined steel drums and 1,000 kg stainless steel intermediate bulk containers
<b>Shelf Life:</b>	18 months from production date when stored at approximately 20°C.
<b>Availability:</b>	Ex stock in the above packaging
<b>Storage:</b>	Protect from extremes of temperature.
<b>Transportation:</b>	<b>ACTICIDE® 14</b> is classified as hazardous for transportation.
<b>Regulatory Approvals:</b>	The active substances of <b>ACTICIDE® 14</b> have BfR chapters 14 and 36, FDA 21 CFRs 175.105, 176.170, 176.180 and 176.300 and a wide range of other regulatory approvals. Its US EPA registration number is 67071-5.

## Safety / Labelling / Toxicology

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For detailed information on the toxicology and handling of **ACTICIDE® 14** and advice on the labelling of products in which it may be used, please refer to the separate Material Safety Data Sheet or seek specific advice from **Thor**.

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\* The data given are time and system dependant.

The information contained in this leaflet is intended to be of assistance to users but is without guarantee. Variations can occur in application and users are advised to conduct their own tests. Suggestions for use neither give nor imply any freedom from patent infringement.

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