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## MIRECIDE - M/90.X

### BIOCIDE FOR WATER-BASED PAINTS, GLUES AND ADHESIVES

#### PROPERTIES

**MIRECIDE-M/90.X** is a preservative based on a formaldehyde donor and isothiazolones in aqueous media, being very efficient against bacteria, fungi and yeast. It is used as an antimicrobial agent for paints, glues and all kind of water-based emulsions. **MIRECIDE-M/90.X** avoid odour, viscosity and pH alterations due to microbiological causes, that appear in water-based paints and aqueous emulsions.

It is not suitable for the preservative treatment of paints with ecological label.

#### REGULATIONS

The active isothiazolones of **MIRECIDE-M/90.X** are licensed by means Food and Drug Administration (FDA), Code of Federal Regulations in sections 175.105, 175.300, 175.320 and 176.170, It is also included with positive character in BgvV German Recommendations (*Empfehlung*) chapters XIV 2 f), XXXVI, B VII b) 12.a) and XXXVI/2, G b), 8.a).

The use of controlled formaldehyde as preservative component for these purposes is also provided in both regulations (see for instance sections 175.105 and 176.170 on FDA and chapters XIV 2 f), XV I 3, XXXVI, B II 6,7 and XXXVI, B VII b) 7 on BgvV).

#### INSTRUCTIONS FOR USE AND RECOMMENDED DOSES

In general, recommended dose is between 0,05 - 0,3% on weight of the product to be treated are effectives, depending on the characteristics of each particular case. **MIRECIDE-M/90.X** must be added at the manufacturing water or in a point when it is possible to obtain an even distribution within the product to be preserved. Nevertheless, it is recommended before the first industrial manufacture, to carry out essays in the laboratory with the additive at different doses in order to select the best, as well as, to verify the good compatibility with the product.

#### PRODUCT DATA

|                  |   |   |
|------------------|---|---|
| Appearance       | : | Transparent or slightly opalescent liquid.                            |
| Odour            | : | Slightly to formaldehyde.   |
| Density (20°C)   | : | 1,05 ± 0,05 gr/cc (ASTM-D/891-59.C)                                   |
| Viscosity (20°C) | : | Lower than 100 cPs (Brookfield RVsp1,100 rpm)<br>(ASTM-D/1084 Meth.B) |
| pH (20°C)        | : | 3,5 - 4,5   |
| Freezing point   | : | Below -5°C  |

|               |   |                               |
|---------------|---|-------------------------------|
| Boiling point | : | Around 100°C                  |
| Flash point   | : | Greater than 100°C (open cup) |
| Solubility    | : | Soluble in water and ethanol. |
| VOC           | : | 145.000-155.000               |

### **MICROBIOLOGICAL ACTIVITY**

The minimum inhibitory concentrations data (m.i.c) of **MIRECIDE-M/90.X** against different standard strains of micro-organisms (results from laboratory essays) are showed below

| <b><u>Microorganisms</u></b>   | <b><u>M.I.C.</u></b> (ppm) |
|--------------------------------|----------------------------|
| <i>Staphylococcus aureus</i>   | 250                        |
| <i>Bacillus megaterium</i>     | 250                        |
| <i>Citrobacter intermedium</i> | 200                        |
| <i>Enterobacter aerogenes</i>  | 250                        |
| <i>Pseudomona aeruginosa</i>   | 350/500                    |
| <i>Aspergillus niger</i>       | 35/50                      |
| <i>Penicillium caseicollum</i> | 35/50                      |
| <i>Aureobasidium pullulans</i> | 25                         |

### **END-PRODUCTS LABELLING**

Concerning this additive, danger labelling is not required for the products treated with **MIRECIDE-M/90.X** at a concentration below 0,2% according to the current Directives on labelling. From 0,2% to 5% the products must be labelled with the symbol and phrase Xi: R43 (may cause sensitisation by skin contact).

### **HANDLING AND STORAGE**

Industrial product. **MIRECIDE-M/90.X** must be handled under the safe recommendations contained on the safety data sheet of the product.

Incompatible substances regarding the chemistry of the product are mainly the oxidizing and reducing agents, mercaptanes and amines. Although **MIRECIDE-M/90.X** has an universal compatibility with products with any ionic character, previous compatibility tests in laboratory are recommended.

**MIRECIDE-M/90.X** is stable for a minimum of 1 year if it is stored at room temperature. However, it must be avoided temperatures above 40°C and under -5°C. During storage, keep containers tightly closed, away from direct sunlight and far of heat sources.

