



Product Information

Preventol® CI 7-50

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Preventol® CI 7-50

Uses

Corrosion inhibitor for copper, brass and bronze.

Chemical and physical data*

Composition:	liquid formulation of approx. 50 % tolyltriazole sodium salt, 4(5)-methylbenzotriazole sodium salt
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Specification

The specification parameters can be found in the currently valid product specification.

Characteristic data*

Density (20 °C):	approx. 1.18 g/cm ³
Viscosity (25 °C):	approx. 38 mPas
Vapour pressure (20 °C):	approx. 25 mbar
Boiling point:	approx. 106 °C
Flash point:	> 106 °C
Ignition temperature:	> 500 °C
pH: (1 % in water):	approx. 11
Stability range:	pH 7 - 14 In the acidic range tolyltriazole is generated which is chemically resistant and less soluble in water than the tolyltriazole sodium salt.

*These items are provided as general information only. They are approximate values and are not considered to be part of the product specifications.

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Solubility

Preventol® CI 7-50 is miscible with lower alcohols, ethylene glycol and propylene glycol in any ratio. Depending on the concentration, dilutions with water are slightly cloudy. Aqueous solutions containing less than 1 % Preventol® CI 7-50 are only very slightly cloudy or virtually clear. The cloudiness can be overcome, if required, by adding methanol, ethanol or isopropanol. Preventol® CI 7-50 is not compatible with acids or highly acidic solutions.

Effect

Preventol® CI 7-50 protects primarily copper, brass and bronze from corrosion, forming a very thin, stable and virtually colourless film on the metal surface. The dissolution of copper and the associated transfer of copper ions, e.g. in cooling or heat transfer fluids, is prevented. Through its passivating effect Preventol® CI 7-50 suppresses the corrosion promoting influence of copper ions on base metals such as aluminium and iron. Copper ions in the heat transfer medium can cause local corrosion (pitting) on aluminium. The addition of Preventol® CI 7-50 to the circulation water also prevents catalytic degradation by copper ions of rubber hosing or rubber seals in the cooling system. Glycols are frequently added to cooling water as antifreeze. Copper ions catalyse the oxidation of glycol to form acids which cause severe corrosion. Preventol® CI 7-50 prevents these oxidation processes. Preventol® CI 7-50 can be combined with other corrosion inhibitors, e.g. sodium benzoate, borax, silicate, nitrite, nitrate, molybdate, phosphate and organic phosphorus compounds and increases their effectiveness.

Application

Preventol® CI 7-50 is effective at very low concentrations (see Table below). As a liquid Preventol® CI 7-50 offers further advantages such as ease of handling, processing, dosage and excellent solubility in glycols.

In most applications Preventol® CI 7-50 can be used in place of solid tolyltriazole (Preventol® CI7-100). In this case the addition of Preventol® CI 7-50 should be 2.3 times higher than the respective amount of tolyltriazole.

5 - 20 g Preventol® CI 7-50 per m³ are sufficient to inhibit the corrosion of copper and copper alloys in open cooling water circuits. In cooling systems already corroded, 2 - 3 times these concentrations should be used for faster passivation. Preventol® CI 7-50 or a dilution thereof in water, ethylene glycol or propylene glycol is added to the cooling water. The point where it is added should be selected so as to ensure rapid mixing with the cooling water.

Additions of 0.15 - 0.35 % Preventol® CI 7-50 have proved suitable for glycol-based antifreezes. Preventol® CI 7-50 generally has good compatibility with other corrosion inhibitors used in antifreezes. Preventol® CI 7-50 prevents the catalytic degradation by copper ions of hydraulic fluids containing glycol and synthetic metal-working fluids. At the same time copper, brass and bronze materials are protected from corrosion. The dosage should be between 0.15 and 0.25 % Preventol® CI 7-50.

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The action of Preventol® CI 7-50 as a copper passivating agent is utilised in aqueous metal-working fluids. Used in moistening agents for offset printing, Preventol® CI 7-50 prevents the corrosion of the nickel surfaces of printing machines. Preventol® CI 7-50 is suitable for alkaline and neutral disinfectants that come into contact with metal surfaces. Disinfectant concentrates contain between 0.1 and 0.5 % Preventol® CI 7-50, depending on the dilution used.

Suggested additions

Fields of application and recommended additions of Preventol® CI 7-50

Application	% by wt. Preventol® CI 7-50
Cooling water in open circuits	0.0005 - 0.002
Cooling or heating water in closed systems	0.02 - 0.04
Glycolic antifreeze concentrates	0.15 - 0.35
Hydraulic fluids	0.15 - 0.25
Aqueous metal-working fluids	0.02 - 0.15
Cleaning agents (neutral, alkaline)	2.0 - 4.0
Fount solutions for offset printing	0.2 - 1.0
Disinfectants	0.1 - 0.5

Additionally to the liquid formulation Preventol® CI 7-50 we also supply the granule form of tolyltriazole under the trade name Preventol® CI 7-100.



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Registration / Approval / Recommendation

Regulatory Compliance Information: Some of the end uses of the products described in this bulletin must comply with applicable regulations, such as the FDA, NSF, USDA, and CPSC. If you have any questions on the regulatory status of these products, contact your LANXESS Corporation representative or the LANXESS Regulatory Affairs Manager in Pittsburgh, PA.

Health & Safety Information

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling the LANXESS products mentioned in this publication. For materials mentioned which are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be followed. Before working with any of these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your LANXESS Corporation representative or contact the LANXESS Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

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The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

Note: The information contained in this bulletin is current as of May 2009. Please contact LANXESS Corporation to determine if this publication has been revised.

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