

ROCIMA™ 560 Biocide

In-can Protection for Paints, Adhesives and Related Products

Description

ROCIMA 560 Biocide is an aqueous solution of the well known active substances methyl- and chlormethylisothiazolone, however in an inverse ratio compared to the established Kathon biocides. This patented preparation combines initial rapid and powerful performance boost with more stable long term broad spectrum activity.

ROCIMA 560 contains active substances permitted for indirect food contact, e.g., coatings and adhesives, provided that the customary dosage rates are not exceeded.

ROCIMA 560 is a straight aqueous solution of the active ingredients and suited for VOC-free products. Virtually no contribution to AOX.

Composition and Technical Data

These properties are typical but do not constitute specifications.

Composition: aqueous solution of methylisothiazolone and chlormethylisothiazolone at a ratio of > 10:1

Appearance	colorless to yellow, clear liquid	
Odor	mild	
Color (Gardner)	max. 3	ISO 4630
Density $d_{\frac{20}{4}}$	1.042 ± 0.01 g/ml	ISO 2811-3
Refractive index $n_{\frac{20}{D}}$	1.358 ± 0.005	ASTM D 1218-02
pH, as is	3 – 6	
Flash point	> 100°C o.c. Cleveland	ISO 2592

Typical Properties

Miscibility/Solubility

Infinite solubility in water, miscible in a wide range of water soluble solvents. Storage in daylight might produce a fine precipitate in ROCIMA 560. This is not related to degradation of active ingredients and does not negatively effect the biological efficacy or the applicability of ROCIMA 560.

Compatibility

ROCIMA 560 shows a good compatibility even with critical systems. Experiments have shown that viscosity, color and other critical parameters of the finished products preserved with ROCIMA 560 remain unchanged. It is generally advisable to check compatibility prior to any special application.

Stability

Temperature: For optimum efficacy we generally recommend additions of ROCIMA 560 below 40°C. Short term exposure to 60°C will have minimal impact but higher temperatures will degrade the chlormethylisothiazolone responsible for the initial performance boost. However, methylisothiazolone is thermally very stable (> 100°C) and therefore long term protection should not be effected by higher temperatures, especially when ROCIMA™ 560 is added into noncontaminated products.

pH range: ROCIMA 560 is applicable and efficacious from pH 4 to 11. Decreasing stability of chlormethylisothiazolone at pH > 8.5 is compensated by increased efficacy and speed of kill of methylisothiazolone at higher pH.

Application and Activity

ROCIMA 560 is a patented combination of methyl- and chlormethylisothiazolone. The special ratio of these active substances results in both an initial increase in rapid activity against a broad spectrum of micro-organisms and a more stable long term protection of the finished product.

The new concept of ROCIMA 560 (combining the short term excellent efficacy of chlormethylisothiazolone in low concentrations with efficacious concentrations of the more stable methylisothiazolone) allows a robust preservation without exceeding existing labelling limits established for preservatives in a wide range of products such as paints, adhesives, latex emulsions, tackifiers, mineral slurries, pigment dispersions and other technical, water based products.

ROCIMA 560 Biocide is a straight solution of the active ingredients in water and does not contain organic solvents. It is suitable to preserve products which are free of VOC (volatile organic compounds, according to Directive 1999/10/EC).

Although ROCIMA 560 contains low concentrations of a halogen containing molecule (chlormethylisothiazolone), at use concentrations already, its theoretically possible contribution to AOX (adsorbable organic halogen) is negligible. In reality the halogen is so loosely bound that it is easily hydrolysed into chloride, thus not effecting AOX at all.

ROCIMA 560 generally shows very good compatibility, i.e., no coagulation, no changes in viscosity, color, gloss, film formation, or other critical parameters of the finished product have been observed.

ROCIMA 560 has a broad spectrum of activity against all micro-organisms commonly occurring in the wider area of target applications. Although we are not aware of any generally accepted testing procedure, we do not expect ROCIMA 560 to provide a protection of the vapour phase due to absence of formaldehyde and other volatile microbicides. Therefore, we recommend to pay special attention to plant and manufacturing hygiene.

ROCIMA 560 complies with several food contact legislations of the European Union and of the Food and Drug Administration (FDA) of the USA. For specific information, please ask your local Rohm and Haas contact or liaise with our Product Integrity Department.

The number of technical products being preserved with ROCIMA 560 is increasing steadily and it is not always possible to predict its suitability. The optimum use should be established by preliminary studies.

Dosage

The optimum dosage of ROCIMA 560 depends upon the susceptibility of the product to be preserved. Preservatives are not designed to overcome lack in plant or manufacturing hygiene, but to avoid contamination in microbiologically clean products. Any microbial contamination of the product, raw materials, process water, storage installations or packaging will reduce preservative efficacy and should be avoided.

However, occasionally, the degree of unavoidable contamination as well as conditions for microbiological growth exhibit seasonal fluctuation, so that a periodical determination of germ counts can assist in choosing the optimum dosage rate.

The typical use concentration is around 0.10% and allows the protection of the finished product without additional labelling requirements. In the case of special applications, please consult either our Technical or our Biological Laboratories for assistance.

Handling

Please refer to the safety data sheet of this product for precise handling instructions.

The processing and use of industrial chemicals require adequate technical and professional knowledge.

In general, avoid eye and skin contact, wear safety goggles, gloves and protective clothing. In case of eye or skin contact despite precautionary measures, wash immediately and thoroughly with plenty of warm water and obtain medical attention.

The legal requirements prevailing in your country, especially on working hygiene and in the avoidance of accidents, must be observed.

Storage

ROCIMA 560 should be stored in closed original containers at ambient temperature, but not below -2°C. If the product does freeze, allow it to return to room temperature and it will turn liquid again and can be used, after homogeneous stirring, without any loss of effectiveness.

Upon extended storage at daylight the product may form a slight precipitate which, however, is not related to degradation of active ingredients and has no effect on bioactivity or applicability of ROCIMA 560.

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

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