Dry-Film Preservation

PYRION™

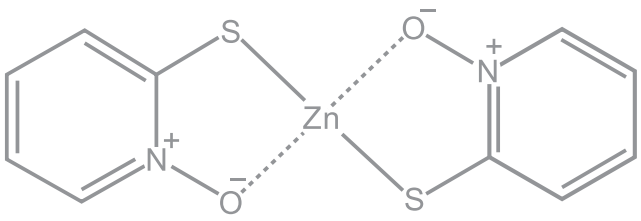
Zinc PYRION™

Product Description

Zinc PYRION™ is a dry-film preservative that provides excellent protection against moulds, yeasts, bacteria and algae in both indoor and outdoor applications. Typical dose levels are up to 0.5% by weight. Depending on the final formulation, the bactericidal activity of Zinc PYRION™ boosts protection against in-can spoilage, and may allow for reduction of in-can preservative levels.

General Information

BSI Name	zinc pyrithione
IUPAC Name	Bis[1-Hydroxy-2(1H)-pyridinethionato-O,S]-T-4 zinc
Synonyms or Codes	ZPT; Bis(2-pyridylthio-1-oxide)zinc; zinc 2-pyridinethiol-1-oxide; zinc pyridinethione
CAS No.	13463-41-7
EINECS No.	236-671-3
Molecular Formula	$C_{10}H_8N_2O_2S_2Zn$
Molecular Weight	317.68
Structural Formula	



Chemical and Physical Properties

These properties are typical but do not constitute specifications:

Appearance	Light beige to beige powder
Purity (Potentiometric Titration)	Min. 97.0 wt.%
Loss On Drying (105°C)	Max. 2 wt.%
Particle Size Distribution (Laser Diffraction)	D_{50}: max. 10 µm; D_{99}: max. 35 µm
Melting Point (Capillary Method)	Decomposes before melting; decomposition starts at ca. 240°C
Relative Density	1.8106 at 22.5°C
Bulk Density	0.41 g/ml
pH	6.5 - 8.5 (5% dispersion in water)
Vapour Pressure	< 6.6 x 10^{-4} Pa at 25°C
Solubility In Water	4.93 mg/l at 20.0°C; 6.11 mg/l at 30.0°C
Partition Coefficient	log P_{ow} = 0.883 at 20.0°C
Flammability (Method 92/69/EEC A.10)	Not "highly flammable"
Auto-flammability (Method 92/69/EEC A.16)	Self-ignition at ca. 254ºC
Explosive Properties (Method 92/69/EEC A.14)	No explosive
Oxidizing Properties (Method 92/69/EEC A.17)	Not oxidizing

Solubility In Organic Solvents

	Solubility, in g/l, at 25°C
Ethanol	0.1
Isopropanol	0.08
Propylene glycol	0.2
Polyethylene glycol	2.0
Chloroform	3.0
Dimethyl Formamide	80.0

Chemical Stability And Compatibility

Zinc PYRION™ is stable between pH 4 and 9.5. Transchelation occurs in the presence of heavy metal ions. Even traces of the corresponding chelates can cause a noticeable discolouration, foremost the iron and copper complexes. Zinc PYRION™ is sensitive to strong oxidizing and reducing agents and light. Zinc PYRION™ is normally photolytically stable in pigmented coatings.

Shelf Life

If stored at ambient temperature, in the original sealed container, Zinc PYRION™ Technical has an initial shelf life of five years.

Use Of Zinc PYRION™ In Paint

Zinc PYRION™ Technical can be added during one of the early stages of the paint manufacturing process, together with pigments and fillers.

Recommended Use Levels

Typical dose levels of Zinc PYRION™ as a dry-film preservative for paint & coatings are up to 0.5% by weight (calculated on total wet paint).

Use biocides safely. Always read the label and product information before use.
Zinc PYRION™ may not be registered for certain uses in certain countries.
For more information on the regulatory status in your country of interest,
we invite you to contact us.

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