

Corrosion Inhibitor

GENERAL INFORMATION

NALZIN FA 579 is a nitrite-free liquid corrosion inhibitor for aqueous coatings which counteracts flash rusting and in-can corrosion. Emulsified in water NALZIN FA 579 is also used as a temporary rust inhibitor. It is suitable for low-pH formulations

PHYSICAL PROPERTIES

Appearance : clear liquid
 pH, 5% solution in water
 (ASTM D 1172) : 8.0 – 9.0
 Density, 20°C
 (ISO 2811-2) : approx. 1070 kg/m³
 Viscosity, 25° C
 (ASTM D 2196) : approx. 400 mPa.s
 Solubility : dispersable in water

APPLICATION AND PROPERTIES

The application of waterborne coatings onto ferrous surfaces is hampered by the occurrence of corrosion which arises during the drying phase. This form of corrosion is known as flash-rusting and is caused by contact between the aqueous phase and ferrous surface, e.g. nail-heads, iron substrates etc. The risk of flash-rusting is greater when the coating is applied in moist surroundings e.g. under humid climate conditions.

NALZIN FA 579 is an organic zinc complex, emulsifiable in water. This complex is changed into a water insoluble Zinc compound after film formation. Unlike water-soluble corrosion inhibitors, NALZIN FA 579 will also work as a permanent corrosion inhibitor, and may be classified as an adsorption inhibitor type. The corrosion inhibiting properties are based on the formation of a monomolecular layer, which is deposited on the metal substrate.

NALZIN FA 579 is also used as a temporary rust inhibitor for metal surfaces. For this application it is recommended to spray the metal surface with a 2% NALZIN FA 579 emulsion.

This method is also recommended when NALZIN FA 579 is not used in the paint. Early rusting after paint application will then be avoided.

NALZIN FA 579 is applied in various aqueous coating formulations to fight flash rusting and as an in-can corrosion inhibitor, especially under acidic conditions where other additives might not be suitable. NALZIN FA 579 is not only used in metal primers but also in traditional flat or gloss dispersion paints to prevent formation of rust spots when these paints are applied onto nail-heads, ferrous pipes, etc.

NALZIN FA 579 is compatible with most dispersion types including polyacrylics, polyvinylacetates, polystyrene acrylics and terpolymers, with waterborne alkyds and aqueous stoving enamels.

Feature

- Based on an organic zinc complex
- Although water dispersable, changes during the drying stage into a non-water dispersable, insoluble zinc compound

Consequence

- shows strong affinity to iron substrates to prevent flash-rusting
- ideal for acidic systems
- forms an anionic passivated layer that provides corrosion inhibition after the film had dried
- can be utilised as an in-can rust inhibitor

INCORPORATION

NALZIN FA 579 may be added during the letdown stage of the paint production. The exact concentration to be used depends on the individual conditions and should be determined experimentally. Generally a concentration of 0.3 - 1.0% NALZIN FA 579, calculated on the total amount of the system, will give good results.

(continued)

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HEALTH AND SAFETY DATA

Before using this product please consult our Material Safety Data Sheet (MSDS) for information on safe handling and storage. MSDS can be found on the company website at www.elementis-specialties.com.

SHELF LIFE

NALZIN FA 579 has a shelf life of 3 (three) years from date of manufacture.

QUALITY ASSURANCE

Since 1992 the company is a holder of the ISO 9001 / ISO 9002 certificates, which guarantees that all operations are conducted according to the stipulated standards.

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