Product Information

Dynasylan® XAR

binder for ceramic casting molds & binder for 2-pack zinc rich paints

CAS NUMBER

confidential

PRODUCT DESCRIPTION

Dynasylan® XAR is a pre-hydrolyzed, ready-for-use silicic acid ester hybrid binder with additional colloidal SiO2 particles. Dynasylan® XAR contains a mixture of ethanol and isopropanol as solvents and sulfuric acid as a catalyst.

Typical Properties

Property	Unit	Value
Appearance		milky liquid
Density (20 °C) DIN 51757	g/cm³	0.91-9.93
Flash Point, min. DIN EN ISO 13736	°C	21
Viscosity (25 °C) DIN 53015	mPa·s	3-4

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasylan® XAR is especially suited for the preparation of:

- ceramic casting molds: precision casting (lost wax or casting shell methods) and ceramic molding (ceramic form or SHAW molding processes).
- precise refractory materials
- 2-compontent zinc dust anti-corrosion paints, (e.g. shop-primers)

Product Composition

Product Composition	Unit	Value
Silicon Dioxide (SiO_2) Content AN-SAA 0851	%	19-21

The data represents typical values (no product specification)

BENEFITS & ADVANTAGES

Dynasylan® XAR in conjunction with refractory forming materials results in ceramic casting molds that have highly precise surfaces and good dimension stability.

In zinc rich paints with a zinc content above 95 % Dynasylan® XAR binds the zinc and allows for the formation of hard coatings with an effective galvanic protection.

By proper application and formulation, zinc dust paints on the basis of Dynasylan® XAR can yield excellent corrosion protection.

HANDLING & PROCESSING

The storage stability of Dynasylan® XAR is 6 months.

The storage stability is determined by the degree of partial hydrolysis and the pH value of the material. Nevertheless, the condensation and hydrolyzation proceeds during storage, as these reactions cannot be suppressed, but only slowed-down.

The further the hydrolysis has proceeded, the faster the condensation (and thus gelation) occurs, when the product is used. This means, that the reactivity depends on the age of the binder and that age needs to be considered for use. Thus, the reactivity of the slurries and 2-pack zinc dust paints depends as well on the age of the binder. Dynasylan® XAR can be used as delivered to make ceramic slips, immersion/ramming mixes, and 2-pack zinc dust anti-corrosion paints.

The degree of hydrolysis and acidity have been optimized for the required reactivity and sufficient storage stability. Through the addition of alcohol and/or water it is possible to vary the SiO2-content and the curing properties.

The hydrolysis and condensation has been started during the production of the binder. This process can be accelerated by a shift in the pH-value. This shift is achieved by addition of fillers, pigments, additives, or through the evaporation of solvent or exposure to atmospheric moisture. The resulting silicic acid gel cures rapidly at ambient

temperatures in air. The process of curing can be accelerated through the addition of alkali catalysts.

Temperature and humidity are important for the curing process.

Zinc dust paints on the basis of Dynasylan® XAR usually cure rapidly under ambient moisture.

Before considering the use of Dynasylan® products please read its Safety Data Sheet (SDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use.

The Safety Data Sheet is available on our website https://silanes.evonik.com/en or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

PACKAGING

Dynasylan® XAR is supplied in ready-to-use drums of 185 kg and IBC of 850 kg.

STORAGE

Dynasylan® XAR is a pre-hydrolyzed binder and thus will age, especially fast close to heat sources. Thus the containers should not be stored in direct sunlight or near to heat sources.

SHELF LIFE

In closed containers Dynasylan® XAR has a shelf life of 6 months from delivery.

Registration Listings	
Registry	**Status**
Australia (AIIC)	Yes
Canada (DSL)	Yes
China (IECSC)	Yes
European Union (EINECS/ELINCS)	Yes
Japan (ENCS)	Yes
South Korea (KECL)	Yes
Philippines (PICCS)	Yes
United States of America (TSCA)	Yes

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