

Product Information

Dynasylan® AMEO

3-aminopropyltriethoxysilane

CAS NUMBER

919-30-2

PRODUCT DESCRIPTION

Dynasylan® AMEO is a bifunctional silane possessing a reactive primary amino group and hydrolyzable ethoxysilyl groups.

The dual nature of its reactivity allows Dynasylan® AMEO to bind chemically to both inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermosets, thermoplastics, elastomers) thus functioning as an adhesion promoter, crosslinker, and/or surface modifier.

Dynasylan® AMEO is a colorless to slightly yellowish low-viscosity liquid with an amine-like odor. It is soluble in alcohols, and aliphatic or aromatic hydrocarbons.

In addition Dynasylan® AMEO is completely and immediately soluble in water.

Typical Properties

| Property | Unit | Value |
|--|-------------------|-------|
| Boiling Point, min. (1013 hPa) DIN 51356 | °C | 220 |
| Density (20 °C) DIN 51757 | g/cm ³ | -0.95 |
| Flash Point, min. DIN EN ISO 2719 | °C | 89 |
| Refractive Index (20,D) DIN 51432 | | 1.422 |
| Viscosity (20 °C) DIN 53015 | mPa·s | -2 |

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasylan® AMEO may be used as a constituent of aqueous sizes, neat, or added to a resin or polymer as a modifier.

Examples are:

- glass fiber/glass fabric composites: as a finish or size constituent
- mineral fiber insulating materials and abrasives: as an additive to phenolic resin binders
- foundry resins: as an additive to phenolic, furanic and melaminic resins
- sealants and adhesives: as a primer or additive and for chemical modification
- mineral-filled polymers or HFFR cables: for pretreatment of fillers and pigments
- paints and coatings: as an additive and primer for improving adhesion to the substrate.
- as a primer for glass and metal surfaces.

Dynasylan® AMEO may react with a variety of inorganic substrates and modify their surfaces. Examples of suitable inorganic substrates are glass, glass fibers, glass wool, mineral wool, silicic acid, quartz, cristobalite, wollastonite, mica as well as aluminum trihydrate, magnesium dihydrate, kaolin, talc, other silicate fillers, metal oxides and metals.

Dynasylan® AMEO may react with a variety of organic resins and polymers and form silane-functionalized materials. Examples of suitable organic resins and polymers are epoxy, phenolic, furanic and melaminic resins, polyurethanes, PA, PBT, PC, EVA, modified PP, PVB, PVAC, PVC, PS, polyester, acrylates and silicones.

Dynasylan® AMEO can undergo reactions with ketone or ester solvents. Silane or silanized substrates can react with carbon dioxide to form the corresponding carbonates and/or carbamates.

Addition reactions with suitable monomeric or polymeric compounds (e.g. isocyanates, epoxides, etc.) are established and state of the art.

BENEFITS & ADVANTAGES

The most important product properties which can be improved by the use of Dynasylan® AMEO are:

- adhesion at the interphase between organic and inorganic materials
- mechanical properties, for example flexural strength, tensile strength, impact strength and modulus of elasticity
- moisture and corrosion resistance
- electrical properties like dielectric constants or volume resistivity.

The most important processing properties which can be improved by the use of Dynasylan® AMEO are:

- filler dispersion
- filler loading
- rheological behavior like reduction of viscosity.

HANDLING & PROCESSING

The hydrolysis of Dynasylan® AMEO takes place autocatalytically. Pure hydrolyzates can be stable at concentrations higher than 10% for > 1 year.

The pH of the aqueous solution is about 11.

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® AMEO is supplied in 25 kg cans, 190 kg drums and 900 kg IBC's.

STORAGE

Local regulations have to be followed and applied.

From technical point of view a storage between 4°C and 40°C is beneficial.

The material is stable as long as not exposed to air or moisture.

SHELF LIFE

In the original unopened container Dynasylan® AMEO has a shelf life of at least 12 months from delivery.

Registration Listings

| Registry | Status |
|---------------------------------|--------|
| Australia (AIIC) | Yes |
| Canada (DSL) | Yes |
| China (IECSC) | Yes |
| EU (REACH) | 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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