

Dynasylan® 1505

3-Aminopropylmethyldiethoxysilane

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C)	approx. 0.92	g/cm ³	DIN 51757
Refractive index n(20,D)	approx. 1.427		DIN 51423
Viscosity (20 °C)	approx. 2	mPa·s	DIN 53015
Boiling point (1013 hPa)	approx. 202	°C	DIN 51751
Flash point	approx. 85	°C	DIN 51758

Registrations

Dynasylan® 1505

EINECS/ELINCS (EU):	Yes
AICS (Australia):	Yes
DSL/NDSL (Canada):	Yes
PICCS (Philippines):	Yes
TSCA (USA):	Yes
IECSC (P.R. China):	Yes
ENCS (Japan):	Yes
ECL (South Korea):	Yes

Dynasylan® 1505 is an amino-functional silane which acts as an adhesion promoter between inorganic materials (for example glass, metals and fillers) and organic polymers (thermosets, thermoplastics and elastomers) and as a surface modifier.

Dynasylan® 1505 is a slightly yellowish liquid with an amine-like odor which is soluble in alcohols and aliphatic or aromatic hydrocarbons.

Safety and handling

Before considering the use of Dynasylan® and Protectosil® products please read its Material Safety Data sheet (MSDS) thoroughly for safety and toxicological data as well as for information on proper transportation, storage and use. The Material Safety Data Sheet is available after registration on our website www.dynasylan.com or upon request from your local representative, customer service or from Evonik Industries AG, Product Safety Department, E-MAIL sds-im@evonik.com.

Packaging and storage

Dynasylan® 1505 is supplied in 180 kg (25 kg) drums. In the originally closed drum **Dynasylan® 1505** has a shelf life of at least 1 year.

Properties and application

Dynasylan® 1505 is an important additive in many applications. For example it can be used as an additive in cold-curing phenolic and furan foundry resins to improve the flexural strength of sand/resin elements with very long shelf life of the resins.

Further examples are:

- Glass and metal primers
- abrasives: as additive to phenolic resin binders
- mineral-filled composites: for pretreatment of fillers and pigments or as additive
- synthesis of functional silicones

The most important effects which can be achieved by using **Dynasylan® 1505** are:

- improvement in product properties, such as
 - mechanical properties, for example flexural strength, tensile strength, impact strength and modulus of elasticity
 - moisture and corrosion resistance
- improvement in processing properties, such as
 - adhesion

Reactivity

Dynasylan® 1505 is a bifunctional organic compound in which the silicon-functional ethoxy-groups hydrolyze in the presence of water to form reactive silanols, which can be bonded to an inorganic substrate; the organophilic amino group can interact with a suitable polymer.

The hydrolysis of **Dynasylan® 1505** takes place autocatalytically in about 5-10 minutes. Hydrolysates having a concentration of < 5 wt.-% are stable for more than 72 hours. The pH is about 11.

Examples of suitable inorganic substrates are sand, mineral wool, silicic acid, quartz, cristobalit, wollastonite and mica; also suitable are aluminium hydroxide, kaolin, other silicate fillers, metal oxides and metals.

Examples of suitable polymers are phenolic resins, furan resins, silicones and melamie resin. **Dynasylan® 1505** can undergo reactions with ketones or esters. Silane or silanized substrates can react with carbon dioxide to form the corresponding carbonates or carbamates. Product modifications are possible through co-condensation with polysiloxanes.

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