

Product Information

Dynasytan® 1161 EQ

N-benzyl-N-aminoethyl-3-aminopropyltrimethoxysilane-hydrochlorid, approx. 50% in methanol

CAS NUMBER

confidential

PRODUCT DESCRIPTION

Dynasytan® 1161 EQ is a cationic aminofunctional silane possessing hydrolyzable inorganic methoxysilyl groups.

The dual nature of its reactivity allows Dynasytan® 1161 EQ 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 and as a surface modifier. Dynasytan® 1161 EQ is a yellow liquid as an approx. 50% solution in methanol. It is soluble in alcohols, ketones, esters and aromatic hydrocarbons. Dynasytan® 1161 EQ contains no carcinogenic benzylchloride.

Dynasytan® 1161 EQ is a bifunctional organosilane: In the presence of water, the methoxy groups of Dynasytan® 1161 EQ hydrolyze to form reactive silanol groups which can bond to a variety of inorganic substrates. The organophilic cationic amino group of Dynasytan® 1161 EQ can react with a suitable polymer.

The cationic structure provides for antistatic properties and, in many applications, particularly good wetting of the resin. Dynasytan® 1161 EQ can also be used in combination with other silanes.

Hydrolysis of Dynasytan® 1161 EQ is preferably carried out in the presence of acetic acid (pH 3-4).

Examples of suitable inorganic substrates are glass, glass fibers, glass wool, mineral wool, silica, quartz, sand, cristobalite, wollastonite, and mica as well as aluminum hydroxide, kaolin, talc, other siliceous fillers, metal oxides and metals.

Dynasytan® 1161 EQ may be used with such polymers as epoxy, unsaturated polyester resins, polyurethanes, PA, PBT, PC, EVA, modified PP, PVB, PVAC and acrylics.

Typical Properties

Property	Unit	Value
Color Gardner, ISO 4630		<= 6.0
Density (25 °C) DIN 51757	g/cm ³	0.930-0.945
Flash Point, min. DIN 13736	°C	12
pH Value (20 °C) DIN 38404-C5, 1:1 in water		~7.4
Viscosity (20 °C) DIN 53015	mPa·s	≤10

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasytan® 1161 EQ can be used in many applications. Examples are:

- as a size constituent or finish for glass fiber/glass fabric composites
- as a primer for glass and metal
- as a primer or additive for sealants and adhesives
- for the pretreatment of fillers and pigments for mineral-filled composites
- as a primer and/or additive for paints and varnishes to improve adhesion to the substrate

BENEFITS & ADVANTAGES

Important product effects that can be achieved through the use of Dynasylan® 1161 EQ are:

- improved mechanical properties: e.g. flexural strength, tensile strength, impact toughness, modulus of elasticity
- improved electrical properties: e.g. dielectric constant, specific volume resistance

Dynasylan® 1161 EQ may also be used to improve processing properties such as

- improved adhesion
- better polymer wetting.

A temperature stability at the inorganic/organic interphase of up to 300°C may be realised.

DOSAGE

Dynasylan® 1161 EQ may be used for substrate pretreatment, for example as a primer (approx. 1-10 wt.% solution in an organic solvent), as a constituent of an aqueous size, or neat. It can also be directly added to a polymer.

HANDLING & PROCESSING

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 Opera-

tions GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

PACKAGING

Dynasylan® 1161 EQ is supplied in 20 kg pails and 170 kg drums.

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®1161 EQ has a shelf life of at least 12 months from delivery.

Registration Listings

Registry	Status
China (IECSC)	Yes
EU (REACH)	Yes
Türkiye (KKDIK)	Pending
Taiwan (TCSI)	Yes
United States of America (TSCA)	Yes

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Evonik Operations GmbH

Silanes
Rodbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
evonik.click/silanes