

Product Information

Dynasylan® F 8261

Fluoroalkylsilane

CAS NUMBER

51851-37-7

PRODUCT DESCRIPTION

Dynasylan® F 8261 is a bifunctional silane possessing hydrolyzable inorganic ethoxysilyl groups and a fluoroalkyl chain.

Dynasylan® F 8261 acts as a surface modifier on mostly hydroxyfunctional substrates (e.g. glass, ceramic). It can also be used as an adhesion promoter between inorganic materials and fluoropolymers (PTFE, fluorosilicones etc.). Dynasylan® F 8261 is a colorless and odorless liquid. It can be diluted to a proportion of about 25 wt.-% in ethanol and various other organic solvents, e.g. n-hexane, xylene, acetone or ethyl acetate.

Typical Properties

Property	Unit	Value
Boiling Point, min. (1.013 hPa) DIN 51751	°C	220
Chemical Name		Tridecafluorooctyl-triethoxysilan,
Density (20 °C) DIN 51757	g/cm ³	1.334
Flash Point, min. DIN EN ISO 2719	°C	108
Melting Point DIN ISO 3841	°C	<-38
pH Value (20 °C, 1:1 in H ₂ O), DIN 19268		5.5
Viscosity (20 °C) DIN 53015	mPa·s	3.5

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasylan® F 8261 can be applied in a wide variety of commercially important applications: Examples include:

- Treatment of automotive glass ("wiperless windshield")
- Easy-to-clean, water-repellent, UV-resistant coating of float glass (constructive glazing)
- Additive for sol-gel systems
- Synthesis of fluorosilicones
- Coating of pigments (e.g. in cosmetics)
- CVD processes
- Easy-to-clean coating on ceramics

DOSAGE

Processing:

Surfaces must be absolutely clean and degreased before treatment!

E.g. the glass surface can be ideally activated with cerium oxide.

for example:

- Glass treatment (e.g. on automotive glass)

The silane is typically diluted to about 1 wt.-% in a suitable solvent (e.g. isopropanol) after 2-10 wt.-% of distilled water and 0.2 wt.-% of hydrochlorid acid) are added. The solution is stirred for about 5 hours and should then be used within one day. substrate treatment can be carried out by dipping, spraying, rinsing, painting or polishing.

The obtained polysiloxane film is completely invisible and will not lead to any optical impairment on the substrate.

HANDLING & PROCESSING

In the presence of water, the ethoxy groups of Dynasylan® F 8261 hydrolyze to produce ethanol and form reactive silanol groups which can bond to a variety of inorganic substrates. The fluoroalkyl functional group provides a low energy surface.

Hydrophobic and oleophobic surface properties can also be achieved by treatment with commercial fluorocarbon surfactants and resins. However, Dynasylan® F 8261 has an

distinct advantage: The formation of a Si-O-substrate bond and subsequent horizontal crosslinking, which takes place upon evaporation of the solvent. This process leads to the formation of 2- and 3-dimensional networks.

Thus starting from very low concentrations Dynasylan® F 8261 is able to form chemically and mechanically stable coatings which exhibit a thickness of only a few nanometers. Suitable substrates include glass, silica, quartz powder, sand, sandstone, cristobalite, wollastonite, mica, kaolin, talc, and other silicate surfaces.

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® F 8261 is supplied in drums containing 10 kg, 25 kg or 200 kg.

SHELF LIFE

In the unopened container, the shelf life of Dynasylan® F 8261 is min. 12 months from delivery.

Registration Listings

Registry	Status
Australia (AIIC)	Yes
Canada (DSL)	Information on Request
China (IECSC)	Yes
EU (REACH)	Yes
European Union (EINECS/ELINCS)	Yes
Japan (ENCS)	Information on Request
South Korea (KECL)	Yes
Philippines (PICCS)	No
United States of America (TSCA)	Yes

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No consumers. Please see 40CFR721.3.

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