Product information

Dynasylan® GLYEO

3-Glycidyloxypropyltriethoxysilane

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C / 68 °F)	approx. 1.01	g/cm³	DIN 51757
Boiling point (0.7 hPa / 0.5 torr)	approx. 270/ 518	°C / ° F	DIN 51356
Flash point	approx. 125/ 257	°C / ° F	EN 22719

Registrations

Dynasylan® GLYEO

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

Dynasylan® GLYEO is a bifunctional organosilane possessing a reactive organic epoxide and a hydrolyzable inorganic triethoxysilyl group.

The dual nature of its reactivity allows **Dynasylan®** GLYEO 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, crosslinking agent and/or surface modifier. **Dynasylan®** GLYEO is a colorless low-viscosity liquid with a slight terpentine-like odor. It is soluble in alcohols, ketones and aliphatic and aromatic hydrocarbons.

Safety and handling

Before considering the use of **Dynasylan®** 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® GLYEO is supplied in 25 kg and 200 kg drums. In the unopened container **Dynasylan®** GLYEO has a shelf life of least one year.

Properties and application

Dynasylan® GLYEO is an important or even essential ingredient in the products of many industries. Examples are:

- glass fiber/glass fabric composites: as a finish or a size ingredient

- foundry resins: as an additive to polyurethane resins

- sealants and adhesives: as a primer or additive

- mineral filled composites: for pretreatment of fillers and pigments or as an additive to the polymer

- paints and coatings: as an additive and as a primer for improving adhesion to the substrate, especially glass and metal

Important product effects that can be achieved through the use of **Dynasylan®** GLYEO include:

- improved mechanical properties, such as flexural strength, tensile strength, impact strength and modulus of elasticity

- improved moisture and corrosion resistance

- improved electrical properties, for example dielectric constant, volume resistivity

Dynasylan® GLYEO can also improve such processing properties as

- better filler dispersion

- rheological behavior (i.e. viscosity reduction) Newtonian behavior

- increased filler loading

Reactivity

In the presence of water, the ethoxy ($-OCH_2CH_3$) groups of **Dynasylan®** GLYEO hydrolyze to produce ethanol and reactive silanol (-Si-OH) groups which can bond to a variety of inorganic substrates. The organophilic glycidyl end of **Dynasylan®** GLYEO can react with a suitable polymer. Hydrolysis of **Dynasylan®** GLYEO is catalyzed by organic acids such as acetic acid. Examples of suitable inorganic substrates are glass, glass fibers, glass wool, mineral wool, silicic acid, quartz, sand, cristobalite, wollastonite, mica as well as aluminum hydroxide, kaolin, talc, other silicate fillers, metal oxides and metals. **Dynasylan®** GLYEO may be used with such polymers as epoxy, phenolic and melamine resins, polyurethanes, ABS, PBT, PS, PVAC, PVC, acrylates, polysulfides, EPDM and butyl rubber.

Processing

For substrate pretreatment, **Dynasylan®** GLYEO can be used as a primer either as an approximately 0.5-2% solution in an organic solvent such as alcohol, as a constituent of an aqueous size, or neat. It can also be added to the polymer matrix as an additive (1-10 wt.-%). A chemical modification can be achieved by reaction with suitable functional monomers or polymers.

Europe/Middle-East/Africa/RoW
Evonik Industries AG
Inorganic Materials
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
PHONE +49 6181 59 13636
FAX +49 6181 59 13737
dynasylan@evonik.com
www.dynasylan.com

North America
Evonik Corporation
Inorganic Materials
P.O. Box 677
299 Jefferson Road
Parsippany, NJ 07054-0677
USA
PHONE (TOLL FREE) +1 800 237 67 45
PHONE +1 973 929 8513
FAX +1 973 929 8503
dynasylan@evonik.com
www.dynasylan.com

Latin America
Evonik Brasil Ltda.
Inorganic Materials
Alameda Campinas, 579
01404-000 São Paulo-SP
Brazil
PHONE +55 11 3146 4123
FAX +55 11 3146 4109
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik Degussa (SEA) Pte. Ltd.
Inorganic Materials
3 Internatioanl Business Park
#07-18, Nordic European Centre
Singapore 609927
PHONE +65 6809 6830
FAX +65 6809 6630
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik Degussa (Shanghai) Co. Ltd.
Inorganic Materials
55, Chungdong Road
Shanghai 201108
P.R. China
PHONE +86 21 6119 1053
FAX +86 21 6119 1075
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik Korea Ltd.
Inorganic Materials
94, Galsan 1-dong
Bupyeong-gu
Incheon, 403-081
Korea
PHONE +82 32 510 2433
FAX +82 32 505 2510
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik Taiwan Ltd.
Inorganic Materials
Artist Construction Bldg.
9F, No. 133
Min Sheng East Road, Sec 3
Taipei, 105 Taiwan, R.O.C.
Taiwan
PHONE +886 227 17 1242
FAX +886 227 17 2106
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik Japan Co. Ltd
Inorganic Materials
12th Floor Monolith Building
2-3-1, Nishi-Shinjuku-ku
Tokyo 163-0912
Japan
PHONE +81 353 23 7300
FAX +81 353 23 7399
dynasylan@evonik.com
www.dynasylan.com

Asia / Pacific
Evonik India Pvt. Ltd.
Inorganic Materials
Krislon House
Saki Vihar Road, Anderi (E)
Mumbai - 400 072
India
PHONE +91 226 7238 800
FAX +91 226 7238 811
dynasylan@evonik.com
www.dynasylan.com