

Dynasytan® AMEO

3-Aminopropyltriethoxysilane

Technical data

Properties and test methods	Value	Unit	Method
Boiling point (1013 hPa)	220	°C	DIN 51356
Density (20 °C)	approx. 0.95	g/cm ³	DIN 51757
Flash point	89-94	°C	DIN EN ISO 2719
Refractive index n (20,D)	approx. 1.422	-	DIN 51432
Viscosity (20 °C)	2	mPas / cSt	DIN 53015

Registrations

Dynasytan® AMEO

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
REACH (Europe)	Registered

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

The dual nature of its reactivity allows Dynasytan® 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.

Dynasytan® 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 Dynasytan® AMEO is completely and immediately soluble in water (with reaction).

Safety and handling

Before considering the use of Dynasytan® 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 after registration on our website www.dynasytan.com or upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

Packaging, storage and shelf life

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

In the original unopened container Dynasytan® AMEO has a shelf life of min. 12 months from delivery.

Properties and applications

Dynasylan® AMEO is an important additive for many applications.

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, furan and melamine resins
- sealants and adhesives: as a primer or additive and for chemical modification
- mineral-filled polymers (composites) 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

The most important effects which can be achieved through the use of Dynasylan® AMEO are:

improved product properties, such as

- improved mechanical properties, for example flexural strength, tensile strength, impact strength and modulus of elasticity
- improved moisture and corrosion resistance
- improved electrical properties, for example dielectric constant, volume resistivity

improved processing properties, such as

- adhesion
- better filler dispersion
- rheological behavior: reduction in viscosity, Newtonian behaviour
- higher fillerloading

Reactivity

In the presence of water, the ethoxy groups of Dynasylan® AMEO hydrolyze and form reactive silanol (Si-OH) groups which can bond to a variety of inorganic substrates. Upon hydrolysis ethanol is released. The organophilic amino group of Dynasylan® AMEO can react with a suitable polymer.

The hydrolysis of Dynasylan® AMEO takes place autocatalytically. Hydrolyzates could be stable for concentrations higher than 10% for > 1 year. The pH of the aqueous solution is about 11.

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 be used with such polymers as epoxy, phenolic, furan and melamine resins, polyurethanes, PA, PBT, PC, EVA, modified PP, PVB, PVAC, PVC, PS, nitril Kautschuk, 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. Product modifications are possible through addition reactions with suitable monomeric or polymeric compounds (e.g. isocyanates, epoxides, etc.).

Processing

Dynasylan® AMEO may be used as a constituent of aqueous sizes neat, or added to the polymer as an additive. In higher concentrations chemical modification can be achieved by reaction with suitable functional monomers or polymers, for example those containing epoxy groups.

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

Europe/Middle-East/Africa

Evonik Operations GmbH

Silanes Business Line
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
FAX +49 6181 59 713915
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

Evonik (SEA) Pte. Ltd.

Silanes Business Line
3 Internatioanl Business Park
#07-18, Nordic European
Centre
Singapore 609927
PHONE +65 6809 6906
FAX +65 6809 6699
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

Evonik Japan Co. Ltd

Silanes Business Line
12th Floor Monolith Building
2-3-1, Nishi-Shinjuku-ku
Tokyo 163-0912
Japan
PHONE +81 353 23 7446
FAX +81 353 23 7397
dynasytan@evonik.com
www.dynasytan.com

North America

Evonik Corporation

Silanes Business Line
299 Jefferson Road
Parsippany, NJ 07054
USA
PHONE (TOLL FREE) +1 800 237 67
45
PHONE +1 973 929 8513
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

**Evonik Specialty
Chemicals (Shanghai) Co. Ltd.**

Silanes Business Line
55, Chungdong Road
Xinzhuang Industry Park
Shanghai 201108
P.R. China
PHONE +86 21 61191-399
FAX +86 21 61191-648
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

Evonik India Pvt. Ltd.

Silanes Business Line
Krislon House
Saki Vihar Road, Anderi (E)
Mumbai - 400 072
India
PHONE +91 226 7238 809
FAX +91 226 7238 811
dynasytan@evonik.com
www.dynasytan.com

North America

Silbond Corporation

9901 Sand Creek Highway
Weston, MI 49289
USA
PHONE +1 732 981 5004
FAX +1 732 981 5275
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

Evonik Korea Ltd.

Silanes Business Line
3F (Nongshim Sungmookwan
B/D)
112 Yeouidaebang-Ro
Dongjak-Gu
Seoul, 07057
Korea
PHONE +82 2320 4773
FAX +82 2783 2520
dynasytan@evonik.com
www.dynasytan.com

Region Central and South America

Evonik Brasil Ltda.

Silanes Business Line
Rua Arquiteto Olavo Redig de Campos,
105
Torre A - 04711-904 São Paulo- SP
Brazil
PHONE +55 11 3146 9627
dynasytan@evonik.com
www.dynasytan.com

Asia / Pacific

Evonik Taiwan Ltd.

Silanes Business Line
Artist Construction Bldg.
9F, No. 133
Min Sheng East Road, Sec 3
Taipei, 105 Taiwan, R.O.C.
Taiwan 10596
PHONE +886 227 17 1242 #247
FAX +886 227 17 2106
dynasytan@evonik.com
www.dynasytan.com