

Dynasytan® SIVO 560

Multifunctional, reactive, unsaturated silane system, methoxy functional

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C)	approx. 1.01	g/cm ³	DIN 51757
Refractive index n (20,D)	approx. 1.408-1.414	-	DIN 51423
Viscosity (20 °C)	approx. 1	mPas / cSt	DIN 53015
Boiling point (1013 hPa)	approx. 142	°C	ASTM D-1120
Flash point	approx. 34	°C	DIN EN ISO 2719

Registrations

Dynasytan® SIVO 560

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

Dynasytan® SIVO 560 is a multifunctional silane system with a high concentration of unsaturated organic groups. It can be used as coupling agent and surface modifier in various applications.

Dynasytan® SIVO 560 is a clear, colorless liquid. It is soluble in alcohols, and aliphatic or aromatic hydrocarbons.

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® SIVO 560 is supplied in 25 kg, 200 kg steel drums and 940 kg bulk containers.

Dynasytan® SIVO 560 has to be kept always impermeable to light (light-proof).

In originally sealed containers Dynasytan® SIVO 560 has a shelf life of min. 12 months from delivery.

Properties and applications

Dynasylan® SIVO 560 is used as reactive coupling agent in various applications:

- as an additive for casting resins (unsaturated polyester, MMA), especially for the production of engineered stones
- as a surface modifier for pigments and fillers for thermosets (unsaturated polyester, MMA), thermoplastics (polyesters and polyolefins) and elastomers
- as an additive for filled, peroxide-crosslinked elastomers

Dynasylan® SIVO 560 is either applied to the inorganic substrate as a pretreatment by dipping, spraying, or coating or it may be added directly to the resin matrix (additive process).

For pretreatment, the silane may be used

- neat
- dissolved in an organic solvent
- dissolved in a mixture of organic solvent and water for partial hydrolysis

In the additive process Dynasylan® SIVO 560 is mixed with the resin or polymer before or together with the filler. A prerequisite for this method is compatibility of the silane with the resin since the silane must not react prematurely with the resin.

Dynasylan® SIVO 560 can achieve the following advantages, for example in a highly-filled unsaturated resin system:

- low resin content (<10%)
- optimum dispersion of the fillers/pigments
- reduction in settling of the fillers/pigments
- a reduction in viscosity and improved flow properties of the resin
- improved mechanical properties of the molded products
- improved resistance of the molded products to boiling water, acids and alkalis

Reactivity

The alkoxy group of Dynasylan® SIVO 560 hydrolyzes in the presence of water (e.g. absorbed on inorganic surfaces) to produce methanol and reactive silanol (Si-OH) groups which can bond to a variety of inorganic substrates. The unsaturated groups interact with the polymer. Examples of suitable inorganic substrates are glass, glass fibers, glass wool, mineral wool, silicic acid, quartz, sand, cristobalite, wollastonite and mica; also suitable are aluminium hydroxide, kaolin, talc, other silicate fillers, metal oxides and metals.

Examples of suitable polymers include unsaturated polyester, acrylates and vinyl esters.

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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