Product information

Dynasylan® PTEO

Propyltriethoxysilane

Technical data

Properties and test methods	Value	Unit	Method
Density (20°C)	approx. 0.89	g/cm>sup>3>/sup>	DIN 51757
Flash point	approx. 57	°C	DIN 51755
Initial boiling point	approx. 175	°C	DIN 51751

Registrations

Dynasylan® PTEO

EINECS/ELINCS (EU):	Yes
AICS (Australia):	Yes
DSL/NDSL (Canada):	*
PICCS (Philippines):	Yes
TSCA (USA):	Yes
IECS (P.R. China):	Yes
ENCS (Japan):	Yes
ECL (South Korea):	No
* = information on request	

Dynasylan® PTEO, an alkyltrialkoxysilane is important component in **sol-gel systems**.

Dynasylan® PTEO is a colourless, low-viscosity liquid. **Dynasylan®** PTEO is regarded as trifunctional since all three alkoxy groups can hydrolyze. Additionally **Dynasylan®** PTEO contains a propyl group that adds a hydrophobic character to the coatings. Hydrolysis leads to silanol groups which, in a subsequent condensation reaction, form very stable siloxane bonds (-Si-O-Si-). Condensation occurs parallel to hydrolysis once a certain amount of silanol groups have been formed. The absolute and relative rates of hydrolysis and condensation depend on a number of factors. The most important factors include pH, concentration, solvent, temperature and the catalyst.

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® PTEO is sold in plastic lined 25 kg and 180 kg steel drums. **Dynasylan®** PTEO must be stored with exclusion of moisture. In a sealed container **Dynasylan®** PTEO has a shelf-life of 12 months with no loss of quality.

Properties and application

In some sol-gel applications **Dynasylan®** PTEO is partially hydrolyzed to form a preproduct that can be further crosslinked using temperature. This pre-hydrolysis often is done in conjunction with other organofunctional silanes, silicic acid esters or even an a aqueous silica sol. This pre-product can be modified even further by addition of organic resins or inorganic nanoparticles such as AEROSIL®. It is also possible to construct an inorganic/organic network by adding silanes containing organofunctional groups (e.g. aminopropyl groups) and organic resins. The mixture is then cured using standard organic methods. In this way it is possible to obtain mar resistant coatings having a higher UV-stability than traditional organic coatings. This can also lead to more flame resistant materials than using traditional resins. **Dynasylan®** PTEO reacts slower with water than **Dynasylan®** PTMO and often a hydrolysis catalyst (mineral acids or ammonia, or even acetic acid and amines) must be added to hydrolyze at appreciable rates. Hydrolysis can also be furthered by adding a cosolvent such as ethanol.

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