Product information

Dynasylan® VTMOEO

Vinyltris(2-methoxyethoxy)silane

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C/ 68 °F)	approx. 1.040	g/cm³	DIN 51757
Refractive index n(20, D)	approx. 1.430	-	DIN 51423
Boiling point (2,7 hPa)	approx. 108/ 226	°C/ °F	DIN 51356
Flash point	approx. 115/ 239	°C/ °F	DIN 51758
Viscosity (20 °C/ 68 °F)	approx. 2.7/ 2.6	mPa·s /cSt	DIN 53015

Registrations

Dynasylan® VTMOEO

ECL (South Korea):	Yes
EINECS/ELINCS (EU):	Yes
AICS (Australia):	Yes
DSL/NDSL (Canada):	Yes
PICCS (Philippines):	Yes
TSCA (USA):	Yes
IECS (P.R. China):	Yes
ENCS (Japan):	Yes

Dynasylan® VTMOEO is a bifunctional organosilane possessing a reactive vinyl group and a hydrolyzable 2-methoxy-ethoxy-silyl group.

The dual nature of its reactivity allows **Dynasylan®** VTMOEO to bind chemically to both inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermosets, thermoplastics, elastomers) thus functioning mainly as an efficient adhesion promoter and/or surface modifier.
Dynasylan® VTMOEO is a colorless, low-viscosity liquid with a typical aromatic odor.

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® VTMOEO is supplied in 25 kg containers, in 200 kg drums, or in 1.000 kg IBC one-way containers. The containers must remain tightly sealed during storage and kept in a cool, well aired place. Product should be protected against humidity. In the unopened container the shelf life of **Dynasylan®** VTMOEO is one year.

Properties and application

1. Adhesion promotion

Dynasylan® VTMOEO acts as an adhesion promoter for various mineral-filled polymers improving their mechanical and electrical properties, especially after exposure to moisture.
Once bonded to an inorganic filler, **Dynasylan®** VTMOEO hydrophobises the filler surface. This effect improves the compatibility of fillers with the polymer matrix, leading to a better dispersibility, reduced melt viscosity and easier processing of filled plastics. The principle of the adhesion promotion is shown below:

2. Dynasylan® VTMOEO as co-monomer for polymer dispersions

Polymer dispersions (e.g. styrene acrylics), modified with **Dynasylan®** VTMOEO show improved adhesion strenghth in wet conditions and wet scrub resistance.

3. Other applications

Dynasylan® VTMOEO can also be used as additive in organic coatings to improve adhesion on inorganic surfaces (metals, glass, ceramic surfaces), as well as for surface treatment of inorganic pigments.

Reactivity

In the presence of moisture, the methoxy-ethoxy groups of **Dynasylan®** VTMOEO hydrolyze to produce 2-methoxyethanol and reactive silanol (Si-OH) groups which can bond to a variety of inorganic substrates. The vinyl functional end of **Dynasylan®** VTMOEO can react with a suitable polymer (activated by peroxide or radiation).

Processing

Toxicological and Environmental Aspects:

When exposed to moisture **Dynasylan®** VTMOEO liberates 2-methoxyethanol. This alcohol is suspected to be teratogenic. Evonik Degussa offers a new generation of alternatives to vinyltris(2-methoxyethoxy)silane that do not liberate 2-methoxyethanol. In many applications these products perform even better than vinyltris(2-methoxy-ethoxy)-silane. More information about these alternatives is given in the Product Information for **Dynasylan®** 6490, **Dynasylan®** 6498 and **Dynasylan®** 6598.

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