Product information

# Dynasylan® SIVO 408

## Oligomeric short-chain alkyl-functional silane

### Technical data

| Properties and test methods | Value | Unit | Method |
|---|---|---|---|
| Flash point | > 25 | °C | DIN EN ISO 13736 |
| pH (20 °C / 68 °F) | 3-4 | - | 500 g/l water |
| Density (20 °C / 68 °F) | ca. 1.04 | $g/cm^3$ | DIN 51757 |
| Viscosity, dynamic (20 °C / 68 °F) | ca. 35 | mPa·s | DIN 53015 |

### Registrations

Dynasylan® SIVO 408

| | |
|---|---|
| EINECS/ELINCS (EU): | Yes |
| AICS (Australia): | No |
| DSL (Canada): | * |
| PICCS (Philippines): | Yes |
| TSCA (USA): | Yes |
| IECSC (P.R. China): | * |
| ENCS (Japan): | Yes |
| KECL (South Korea): | Yes |
| REACH (Europe) | Exempted |
| * = information on request | |

Dynasylan® SIVO 408 is an oligomeric short-chain alkylfunctional silane.

Dynasylan® SIVO 408 is a clear, colourless to slightly yellow liquid and soluble in common organic solvents (e.g. petroleum ether, toluene, alcohol). Because of its unique structure and viscosity Dynasylan® SIVO 408 is an easy-to-handle additive.

During the hydrolysis reaction between water and Dynasylan® SIVO 408 a certain amount of VOC (volatile organic compound) is released as ethanol. From an environmental standpoint it should be noted that the amount of released hydrolysis ethanol (VOC) is significantly reduced compared to monomeric alkyl silanes.

## Safety and handling

Before considering the use of Dynasylan® 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.dynasylan.com or upon request from your local representative, customer service or from Evonik Resource Efficiency GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

## Packaging, storage and shelf life

Dynasylan® SIVO 408 is supplied in 25 kg pails and 200 kg polyethylene in-lined steel drums (net weight).

The containers must remain tightly sealed and stored in a cool, well-ventilated place protected against moisture.

In the unopened container Dynasylan® SIVO 408 has a shelf life of min. 12 months from delivery.

## Properties and applications

Dynasylan® SIVO 408 silane can be used as a surface modifier to generate hydrophobicity (e.g. on inorganic pigments, mineral fillers). The short-chain alkyl functionality results in unique compound properties when Dynasylan® SIVO 408 treated minerals or pigments are incorporated into polymers, e.g. polyethylene or polypropylene. Loading levels of 0.5 to 1.5 weight-% Dynasylan® SIVO 408 based on the weight of filler or pigment are typically recommended. Dynasylan® SIVO 408 is excellent as a dispersion and hydrophobation agent in mineral filled compounds. Dynasylan® SIVO 408 forms covalent bonds to the inorganic surfaces and will not migrate out of the final compound as it will happen to silicone oils used as surface modifiers. In the presence of moisture, the ethoxy groups of Dynasylan® SIVO 408 hydrolyse to produce ethanol and reactive silanol groups. These silanol groups react with the filler via silicon-oxygen bridges. Dynasylan® SIVO 408 can be used in many other applications such as filler and pigment coatings, dispersions etc. Typical property improvements obtained by using Dynasylan® SIVO 408 in filled polymers are:

- improved filler dispersion
- good processability
- significantly reduced water-uptake

**Key Benefits**

Because of its unique structure, Dynasylan® SIVO 408 exhibits superior hydrophobicity on substrates and forms chemical bonds to substrates. Use of Dynasylan® SIVO 408 silane results in:

- Dynasylan® SIVO 408 treated inorganic substrates (e.g. titanium dioxide, ATH, or MDH) show excellent compatibility and dispersion characteristics especially in non/low polar matrices (e.g. in polyolfines and others).
- Dynasylan® SIVO 408 forms covalent bonds to the substrate surfaces and will not migrate out of the final compound.
- The significant increased compatibility leads to a reduced viscosity of the compounds, thus higher filler loadings are possible.

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