

Dynasytan® 4148

Polyethyleneglycol-functional alkoxysilane

Technical data

Properties and test methods	Value	Unit	Method
Viscosity (20 °C)	10 - 20	mPa.s	DIN 53015
Freezing point	< - 10	°C	DIN ISO 3016
Density (20 °C)	approx. 1.1	g/cm ³	DIN 51757
Flash point	> 95	°C	EN 22719

Registrations

Dynasytan® 4148

AICS (Australia):	No
DSL/NDSL (Canada):	Yes
PICCS (Philippines):	No
TSCA (USA):	Yes
IECSC (P.R. China):	Yes
ENCS (Japan):	Yes
ECL (South Korea):	Yes
EINECS/ELINCS (EU):	Yes
REACH (Europe)	Exempted

Dynasytan® 4148 is a ready-for-use silane and is soluble in water and most organic solvents.

Dynasytan® 4148 helps to control rheological properties and to reduce viscosity in highly-filled polymer systems, like aluminum trihydroxide-filled polyesters or SMC-pastes.

Contrary to most other organofunctional silanes, Dynasytan® 4148 features chemical polarity yet remaining chemically not reactive. Such a product is used as a hydrophilic compatibilizer rather than a covalent adhesion promoter.

Dynasytan® 4148 permits workable viscosities at well over 250 phr aluminum trihydroxide loading in unsaturated polyester resins. Further more, Dynasytan® 4148 can be used as anti-settling agent for corrosion inhibitors in glycol based cooling agents.

As a non-coupling silane Dynasytan® 4148 can also be used as a slipping agent to simply modify a surface.

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® 4148 is supplied in pails with a capacity of 25 kg and drums with 200 kg.

The containers must remain tightly sealed during storage and kept in a well aired place. Protection against humidity is essential.

Protect from frost (avoid temperatures below 0°C). The product becomes a solid when stored cold (e.g. at -10°C) but can be recovered without deterioration after melting.

Properties and applications

Dynasylan® 4148 can be added neatly to a blend of filler or pigment and resin, or it can be used for the pretreatment of the filler or pigment.

Pre-treatment of the filler or pigment is best achieved in a high-speed mixer by spraying Dynasylan® 4148 into a well-agitated filler or pigment bed. In order to obtain maximum efficiency of the treated filler or pigment, a good distribution of Dynasylan® 4148 throughout the filler or pigment surface is essential.

If the surface area of a filler or pigment is unknown, 1 percent by weight of Dynasylan® 4148, based on filler or pigment, is a convenient initial basis for Pre-treatment. Subsequently, the exact Dynasylan® 4148 loading should be determined empirically.

Moreover, Dynasylan® 4148 can act as a lubricant and wetting agent in the glass fibre industry in combination with silane coupling agents.

As a non-coupling silane, Dynasylan® 4148 can dramatically reduce the dispersion viscosity of aluminum trihydroxide and many other fillers and pigments. Because of better wetting and dispersion, outstanding filler or pigment loadings at a given viscosity can be realized with Dynasylan® 4148.

Dynasylan® 4148 helps to increase pigment dispersion predominantly in aqueous media, thus leading to an enhanced gloss of a typical coating.

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