

Product Information

Dynasylan® 4150

Polyethyleneglycol-functional alkoxy silane

INCI NAME

METHOXY PEG-10 PROPYLTRIMETHOXYSILANE

PRODUCT DESCRIPTION

Evonik has developed a non-ionic silane which imparts outstanding wetting and dispersibility to fillers and pigments used in the cosmetic industry (for example titanium dioxide and clay).

Contrary to most other organofunctional silanes, Dynasylan® 4150 features chemical polarity yet remaining chemically not reactive. Such a non-coupling filler or pigment surface-modifier silane is used as a hydrophilic compatibilizer rather than as a covalent adhesion promoter.

Due to its excellent wetting behaviour, Dynasylan® 4150 helps to control rheological properties and to reduce viscosity, allowing extremely high fillers loads in water and polar vehicles, permitting to achieve a powdery velvet touch sensation on the skin.

Furthermore, Dynasylan® 4150 can be used as anti-settling agent for fillers and pigments, ensuring the stability and improving the texture of aqueous and glycol-based cosmetic formulations.

Typical Properties

Property	Unit	Value
Viscosity (20 °C) DIN 53015	mPa·s	10-20

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

Dynasylan® 4150 is a ready-to-use silane, soluble in water and most organic solvents. It can be added neatly to a blend of filler or pigment and resin, or it can be used for the pre-treatment of the filler or pigment.

Pre-treatment of the filler or pigment is best achieved in a high-speed mixer by spraying Dynasylan® 4150 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® 4150 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® 4150, based on filler or pigment, is a convenient initial basis for pre-treatment. Subsequently, the exact Dynasylan® 4150 loading should be determined empirically.

As a non-coupling silane, Dynasylan® 4150 can considerably reduce the dispersion viscosity of several fillers and pigments, consequently optimising the processability of formulations. Because of the excellent wetting and dispersion, high filler or pigment loads at a given viscosity can be realized with Dynasylan® 4150.

Dynasylan® 4150 can be used for the treatment of many common cosmetic fillers, including talc, mica, and silicates,

Typical Properties

Property	Unit	Value
Chemical Name		METHOXY PEG-10 PROPYLTRIMETHOXYSILANE
Density (20 °C) DIN 51757	g/cm ³	~1.1
Freezing Point DIN ISO 3016, typical values are lower than - 10°C	°C	-10
pH Value (20°C), concentration 500 g silane/liter		4-5

The data represents typical values (no product specification)

as well as metal oxide pigments, such as titanium dioxide, zinc oxide, and iron oxide.

Application-e.g. color cosmetics

- mineral make-up (eye-shadow, blushes)
- skin covering powder
- fluid foundation

Documentation containing additional information is available upon request (Certificate of Heavy Metals, Certificate of Specified Microorganisms).

BENEFITS & ADVANTAGES

Due to their customized surface energy, the surface treated functional pigments and fillers are used in many cosmetic products in order to enhance various properties of the finished formulation such as skin feel, oil absorption, color and gloss. Dynasylan® 4150 helps to increase pigment dispersion predominantly in polar cosmetic vehicles, consequently reducing the pigment amount, thus leading to an intense color or enhanced gloss of a cosmetic formulation if this effect is targeted.

HANDLING & PROCESSING

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 upon request from your local representative, customer service or from Evonik Operations GmbH, Product Safety Department, E-MAIL sds-hu@evonik.com.

PACKAGING

Dynasylan® 4150 is supplied in pails with a capacity of 25 kg and drums with 200 kg.

STORAGE

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

SHELF LIFE

In unopened containers Dynasylan® 4150 has a shelf life of min. 12 months from delivery.

Registration Listings	
Registry	Status
Australia (AIIC)	No
Canada (DSL)	Yes
China (IECSC)	Yes
EU (REACH)	Exempted
EU (EINECS/ELINCS)	Yes
Japan (ENCS)	Yes
South Korea (KECL)	Yes
USA (TSCA)	Yes

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