

Dynasylan® F 8815

Modified fluoroalkyl siloxane, water borne

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C)	1.058	g/cm ³	DIN 51757
Viscosity (20 °C)	1.6 / 1.5	mPa.s / cSt	-
Flash point	> 90	°C	EN 22719
Boiling point (1.013 hPa)	97	°C	ASTM D - 1120

Registrations

Dynasylan® F 8815

EINECS/ELINCS (EU):	Yes
AICS (Australia):	No
DSL/NDSL (Canada):	No
PICCS (Philippines):	No
TSCA (USA):	Yes (Spraying is prohibited)
IECS (P.R. China):	Yes
ENCS (Japan):	No
ECL (South Korea):	Yes

Dynasylan® F 8815 is a fluoroalkylfunctional water-borne oligosiloxane which acts as a surface modification agent on oxidic, carboxy- and hydroxyfunctional substrates for example ceramic, natural fibers like cotton or leather.

Dynasylan® F 8815 is a yellowish, slightly turbid liquid. The product can be mixed with water to any desired concentration.

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® F 8815 is supplied in 25 or 200 kg drums. In the original closed container, the guaranteed shelf life of **Dynasylan® F 8815** is 1 year. **Dynasylan® F 8815** should be protected from freezing and temperatures above 40 °C.

Properties and application

Dynasylan[®] F 8815 can be used in a great variety of applications.

Examples:

- Additive for sol-gel/ hybrid systems
- Modification of paints and varnishes
- Hydrophobation of leather
- Water- and oil-repellent, easy-to-clean treatment of textiles

Reactivity

Dynasylan[®] F 8815 is a trifunctional organic compound: The reactive silanol groups can bind chemically to an inorganic substrate. Aminoalkyl-functional substituents provide solubility in water. The fluoroalkyl-functional groups impart an extremely low specific surface energy once the siloxane is homogeneously distributed on the substrate.

Similar coatings with good hydro- and oleophobicity can be obtained with commercially available fluorocarbon compounds. A general advantage of **Dynasylan**[®] F 8815 is the ability to create a chemical bond to the substrate system. Subsequent horizontal crosslinking then takes place forming 2- and 3-dimensional networks.

Thus starting from very low concentrations **Dynasylan**[®] F 8815 forms chemically, thermally and mechanically stable coatings.

Processing

Substrate surfaces need to be absolutely clean and degreased before treatment!

Dynasylan[®] F 8815 can be mixed with water in any proportion. Before using the product must be mixed thoroughly to homogenize it. The exact concentration required may slightly vary upon the desired application. A ready-for-use solution can be stored for several days.

Textiles such as cotton can be dipped in or sprayed with a 5-15 wt.-% aqueous solution of **Dynasylan**[®] F 8815. The dipping time which corresponds to the reaction time should be 0.5-10 minutes.

A good hydrophobic effect on leather can be obtained by polishing the **Dynasylan**[®] F 8815 on to the material.

A thin polysiloxane coating is formed and its specific properties emerge within a few hours at room temperature. The crosslinking process can be accelerated by heating (80-150 °C). Hydro- and oleophobic properties can be determined by measuring the static contact angle.

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