

Dynasylan® 6490

Reactive vinyl siloxane oligomer, methoxy functional

Technical data

Properties and test methods	Value	Unit	Method
Density (20 °C / 68°F)	approx. 1	g/cm ³	DIN 51757
Boiling point	> 220 / < 428	°C / °F	ASTM D-1120
SiO ₂ -content	approx. 54	% w/w	AN-SAA 0754
Flash point	approx. 87 / 188	°C / °F	DIN EN ISO 2719 (Pensky-Martens, closed-cup)
Viscosity, dynamic (20°C / 68°F)	2 - 4	mPa·s / cSt	DIN 53015

Registrations

Dynasylan® 6490

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

Dynasylan® 6490 is a vinyl silane concentrate (oligomeric siloxane) containing vinyl and methoxy groups.

Dynasylan® 6490 is a colourless, nearly odorless low-viscosity liquid.

Dynasylan® 6490 is an excellent compatibiliser between inorganic fillers (e.g. kaolin, MDH, ATH) and organic polymers (e.g. EPDM, EVA, PE).

The high boiling point of **Dynasylan® 6490**, together with its high flash point, gives it outstanding advantages with respect to safety and handling during processing. From an environmental viewpoint it should be noted that the amount of released hydrolysis methanol (VOC) is significantly reduced compared to monomeric vinyl silanes.

Safety and handling

Before considering the use of Dynasylan® and Protectosil® 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® 6490 is supplied in 25 kg, 200 kg drums and 1.000 kg containers. The containers must remain tightly sealed and stored in a cool, well-ventilated place protected against moisture. In the unopened container the shelf life of **Dynasylan® 6490** is 12 months.

Properties and application

A major field of application for mineral-filled compounds is the cable industry. EPDM and EVA can be processed into highly filled cable compounds through the adhesion promoting and hydrophobising effect of **Dynasylan® 6490**.

The EPDM and EVA polymers with **Dynasylan® 6490** are for the halogen-free, non-toxic, environmentally-friendly flame retardant cable compounds (HFFR) based on ATH and MDH.

In addition, **Dynasylan® 6490** can be used in many other applications such as filler and pigment coating, dispersions etc. typical property improvements obtained by using **Dynasylan® 6490** in filled polymers are:

- improved filler dispersion
- good processability significantly
- reduced water-uptake
- excellent balance between tensile strength and elongation at break at a high level
- improved chemical resistance
- strongly reduced tendency to stress cracking
- higher impact strength
- higher abrasion resistance

Reactivity

Dynasylan® 6490 is excellent as an adhesion promoter, dispersion and hydrophobation agent in mineral filled compounds.

In the presence of moisture, the methoxy groups of **Dynasylan® 6490** hydrolyse to produce methanol and reactive silanol groups. These silanol groups react with the filler via silicon-oxygen bridges. The vinyl functional groups of **Dynasylan® 6490** react with the polymer phase in the presence of radicals.

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