

GENIOSIL[®] XL 10

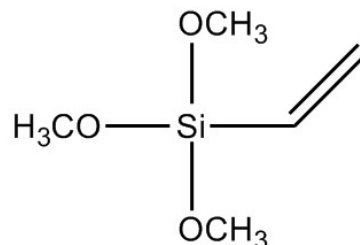
GENIOSIL[®]

Organofunctional Silanes

Vinyltrimethoxysilane

Colourless, clear liquid with a weak characteristic odor. Soluble in organic solvents; limited solubility in water (< 1 %). Moisture sensitive.

CAS No. 2768-02-7 | Empirical formula C₅H₁₂O₃Si | Molecular weight 148,23 g/mol



Properties

Pipes and cables produced from silane-crosslinked polyethylene (PE-Xb) using GENIOSIL[®] XL 10 are more resistant to heat and weathering than products made from non-crosslinked polyethylene. They also have improved electrical properties. The storage stability is greatly enhanced in formulations of silane-crosslinking adhesives and sealants. Use of GENIOSIL[®] XL 10 as a co-monomer in polymer dispersions results in binders which exhibit much improved wet scrub resistance and higher abrasion resistance thanks to crosslinking and improved adhesion to the substrate. GENIOSIL[®] XL 10 is an alkoxyvinylsilane. It's a clear, colorless liquid with a characteristic odor. The silane hydrolyzes in the presence of moisture (methanol is released) to form silanols, which can then react with themselves to produce siloxanes.

Technical data

General Characteristics

Property	Condition	Value	Method
Boiling point	1013 hPa	122 °C	-
Density	25 °C	0.97 g/cm ³	DIN 51757
Dimer content	-	max. 0.3 %	GC
Flash point	-	25 °C	ISO 13736
Hydrolyzable chloride as HCl	-	max. 10 mg/kg	-
Ignition temperature	-	240 °C	DIN 51794
Methanol content	-	max. 0.3 %	GC
Purity	-	min. 99 %	-
Refractive index	25 °C	1.391	-
Viscosity, dynamic	25 °C	0.6 mPa·s	DIN 51562

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be downloaded via WACKER web site <http://www.wacker.com>.

Applications

- Industrial Coatings
- Marine & Protective Coatings
- Plastic Additives
- Plastic Crosslinking

Application details

GENIOSIL® XL 10 is used in the production of pipes and cables made of silane-crosslinked polyethylene (PE-Xb), as a water scavenger during the production of silane-crosslinking adhesive and sealant formulations, and as co-monomers in the production of silane-modified binders for surface coatings.

1. Grafting of GENIOSIL® XL 10

The radical grafting of GENIOSIL® XL 10 to polyolefins, such as HDPE and LDPE, is typically effected via reactive extrusion, using peroxides as catalysts. Usually, 1-2 wt % GENIOSIL® XL 10 is required, expressed in terms of the polyolefin. Polyolefins grafted with GENIOSIL® XL 10 are moisture-cured after molding.

2. GENIOSIL® XL 10 as an additive in silane-crosslinking formulations

In silane-crosslinking formulations, (e.g. silane-terminated polyethers, polyurethanes or polysiloxanes), GENIOSIL® XL 10 is mixed into the formulation as an additive to prevent premature crosslinking due to trace moisture. Processing is effected by means of standard mixing methods (e.g. paddle agitator, dissolver, kneader). GENIOSIL® XL 10 may be added before or during incorporation of the reactive polymer. The amount added will depend on the water content and pretreatment of the components

3. GENIOSIL® XL 10 as a co-monomer in polymer dispersions

To incorporate GENIOSIL® XL 10 in organic polymer dispersions by way of co-polymerization, it is added as co-monomer - along with typically used monomers (e.g. ethylene, vinyl acetate, styrene, acrylate) and freeradical initiators (diazo compounds or peroxides) - during production of the emulsion polymer

Packaging and storage

Packaging

- 25 kg can
- 180 kg drum
- 195 kg drum

Storage

The 'Best use before end' date of each batch is shown on the product label.

Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

QR Code GENIOSIL® XL 10



For technical, quality or product safety questions, please contact:

Wacker Chemie AG, Hanns-Seidel-Platz 4, 81737 Munich, Germany
productinformation@wacker.com, www.wacker.com

The data presented in this medium are in accordance with the present state of our knowledge but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this medium should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The information provided by us does not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the product for a particular purpose.