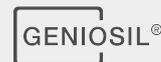


GENIOSIL[®] GF 9



Organofunctional Silanes

N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane

Properties

Thanks to the specific reactivity of the 2-aminoethylaminopropyl structure, using GENIOSIL[®] GF 9 as an adhesion promoter in glass-fiber reinforced or filler-modified plastics reduces the filler's sedimentation tendency and improves dispersibility and numerous mechanical properties (e.g. flexural strength, tensile strength, modulus of elasticity) of the composites. The use of GENIOSIL[®] GF 9 in these materials also results in a markedly improved resistance to water (vapor) and corrosion. Electrical properties, such as volume resistivity and the dielectric constant, are also positively influenced. Due to the nature of the amino group, this substance reacts as a strong base. The silane hydrolyzes autocatalytically in the presence of moisture (methanol is released) to form silanols, which can subsequently react with themselves to produce siloxanes or can bind to inorganic substrates. It is a clear, colorless to light yellow liquid with a characteristic amine odor. As a typical amine, GENIOSIL[®] GF 9 can also interact with numerous organic polymers and thus function as a molecular bridge between organic and inorganic substrates.

Technical data

General Characteristics

Property	Condition	Value	Method
Active content (amino silanes)	-	> 98.0 %	-
Amine Content (mequiv/g)	-	-	-
Boiling point	-	-	-
Density	-	-	-
Flash point	-	-	-
Ignition temperature (liquids)	-	-	-

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.

Applications

- Building & Construction Adhesives
- Interior Paints
- Sealants
- Industrial Adhesives
- Flooring Installation
- Do It Yourself
- Waterproofing Membranes

Application details

1. General processing information GENIOSIL® GF 9 is highly miscible with organic solvents, such as ethers and hydrocarbons. Mixing with ketones results in imine formation, while mixing with alcohols other than methanol leads to an autocatalytic exchange of alkoxy groups until the system reaches thermodynamic equilibrium. GENIOSIL® GF 9 demonstrates typical amine behavior when exposed to acids, epoxides or isocyanates. GENIOSIL® GF 9 is highly soluble in neutral water. Caution: due to the enthalpy of solution, mixing GENIOSIL® GF 9 with water is exothermic. It is recommended that GENIOSIL® GF 9 is added to water, not vice versa, while stirring. A 2 wt % solution of GENIOSIL® GF 9 in water has a pH of 10 -11 and remains stable for several weeks. Due to the reactive nature of GENIOSIL® GF 9, contact with moisture must be avoided during prevent undesired hydrolysis. 2. GENIOSIL® GF 9 in glass-fiber reinforced or mineral-filled polymers Fillers are treated either with pure GENIOSIL® GF 9 or a solution thereof. It may be necessary to pretreat the substrate with water. The modified filler is preferably bonded to the organic material, e.g. an epoxy resin, by mixing it with a standard amine curing agent. In an alternative procedure referred to as "blending", GENIOSIL® GF 9 is added directly to the polymer - either before the organic materials is compounded with the filler or at the same time. A prerequisite for the blending process is that GENIOSIL® GF 9 and the polymer are compatible and that the resin and GENIOSIL® GF 9 do not react prematurely. 3. GENIOSIL® GF 9 as a surface modifier Used as a primer, GENIOSIL® GF 9 is applied as an aqueous or organic solution to an inorganic substrate (e.g. metal or glass surfaces). Once GENIOSIL® GF 9 has dried and bonded to the surface, an organic coating may be applied using a standard technique (e.g. spraying or knife coating). GENIOSIL® GF 9 is mainly used as a surface modifier for glass fibers, glass-fiber fabrics, fillers (e.g. glass or mineral wool, mica, talc, wollastonite, kaolin, cristobalite, metal oxides) and pigments used in various plastics, including epoxy resins, polyamides, polyacrylates, polyurethanes, ethylene/vinyl acetate copolymers and many others. Other important applications include its uses as an adhesion promoter in polysulfides and phenolic resins for abrasives and insulating materials and as a primer for sealants, adhesives and coatings.

Packaging and storage

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

Detailed safety information is contained in each Material Safety Data Sheet, which can be obtained from our sales offices.

QR Code GENIOSIL® GF 9



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

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