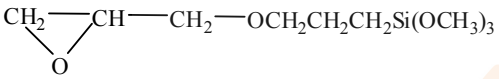
Product information

LT-560

γ-(2,3-epoxy propoxy) propyl tri methoxy Silane

Product description

Structural formula:



Empirical formula: $C_9H_{20}O_5Si$

Molecular weight: 236

CAS No.：2530-83-8

Chemical name:

γ-(2,3-epoxy propoxy) propyl tri methoxy sila ne

Properties

LT-560 is a bifunctional silane possessing a reactive organic epoxide and hydrolysable inorganic methoxysilyl groups. The dual nature of its reactivity allows it to bind chemically to both inorganic materials (e.g. glass, metals, fillers) and organic polymers (e.g. thermoplastics, thermosets or elastomers) thus functioning as adhesion promoter, cross-linker, and/or surface modifier.

It is a clear, colorless low-viscosity liquid with a slight terpentine-like odor. It is soluble in alcohols, ketones and aliphatic or aromatic hydrocarbons.

Technical data

Typical characteristics	Value
Appearance	Colorless and clear liquid
Purity	97%
Density at 25℃	1.07g/ml
Boiling point at 760mmHg	290℃
Flash point, Tag closed cup	110℃
Refractive index (25℃)	1.428

Note: the above data are for reference only, can not be used as a technical specification

Reactivity

Lt-560 in the presence of water, the methoxy group hydrolyzes to form reactive silyl groups that can bond to the surfaces of a variety of inorganic substrates.

The hydrolysis of LT-560 can be catalyzed by organic acids, such as acetic acid.

Suitable inorganic materials: glass, fiberglass, quartz, quartzite and metal.

Resins available for lT-560 include epoxy, phenolic, polyurethane, PAVC, acrylic and polythiorubber.

Application and performance

LT-560 is an essential ingredient in the products of many industries. Examples are:

- ✧ Glass fiber/glass fabric composites: as a finish or a size ingredient.
- ✧ Foundry resins: as an additive to polyurethane resins.
- ✧ Sealants and adhesives: as a primer or additive.
- ✧ Mineral filled composite: for pretreat-ment of fillers and pigments or as an additive to the polymer.
- ✧ Paints and coatings: as an additive and as a primer for improving adhesion to the substrate, especially glass and metal.
- ✧ Improved shelf life over aminosilanes in

polyurethanes

The LT-560 brings important performance to the end product, including:

- ✧ Improved mechanical properties, such as flexural strength, tensile strength, impact strength and modulus of elasticity.
- ✧ Improved moisture and corrosion resistance.
- ✧ Improved electrical properties, such as dielectric constant, volume resistivity.

LT-560 can also improve such processing properties as

- ✧ Increased filler dispersion
- ✧ Rheological behavior (i.e. viscosity reduction) and Newtonian behavior.
- ✧ Increased filler loading.
- ✧ None yellowing.

Product safety, handling and storage

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage condition required. 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.