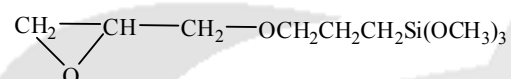




Product information

LT-560 γ -Glycidoxypropyltrimethoxysilane**Product description**

Structural formula:

Empirical formula: C₉H₂₀O₅Si

Molecular weight: 236

CAS No.: 2530-83-8

Chemical name:

 γ -Glycidoxypropyltrimethoxysilane**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.

The use of LT-560 as a coupling agent in mineral-filled plastics improves filler dispersibility, reduces its sedimentation tendency and greatly lowers the resin's viscosity. In addition, it leads to higher filler loading and a marked increase in water (vapor) resistance, as well as resistance to acids and bases. As a component of adhesives and

sealants, LT-560 improves both adhesion to the substrate and mechanical properties such as flexural strength, tensile strength and modulus of elasticity.

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	Clear liquid
Purity	≥98.0%
Density at 25°C	1.07g/ml
Boiling point at 760mmHg	290°C
Flash point, ASTM D93	110°C
Refractive index (25°C)	1.428

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

Reactivity

In the presence of water, the methoxy groups of LT-560 hydrolyze to form reactive silanol groups which can bond to a variety of inorganic substrates. The organophilic epoxy group can undergo a ring-opening reaction with nucleophiles such as alcohols and amines. An acidic or basic catalyst may be required.

Examples of suitable inorganic substrates are glass, glass fibers, quartz, cristobalite and metals. It may be used with such polymers as epoxy, phenolic, polyurethanes, polysulfides, PVAC, acrylates.



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 pretreatment 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.

Important functional effects that can be achieved through the use of LT-560 include:

- ✧ 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. Enhanced electrical properties of epoxy based electronic encapsulant and package-ing materials, resulting from improved bonding between resin and substrate or filler.

LT-560 can also improve such processing properties as

- ✧ Rheological behavior (i.e. viscosity reduction) and Newtonian behavior.
- ✧ Increased filler dispersion and 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.

Packaging

Information on available container sizes is obtainable from **HUBEI BLUESKY** supplier.

The data presented in this leaflet 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 leaflet 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 recommendations do 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 products for a particular purpose.

Hubei Bluesky New Material Inc.

No. 8 Chemical Industrial Park Economic Development Zone,
Xiantao, Hubei, CHINA 433003

Telephone & Fax: +86-728-3254088; +86-728-3253808

E-mail: cssilanes@blueskychemical.com

Website: www.blueskychemical.com

