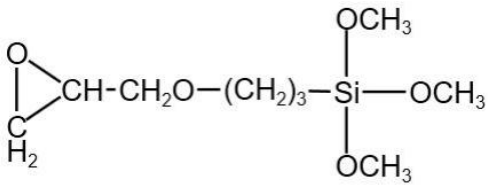
H-1671 3-Glycidyloxypropyl trimethoxysilane

Product Description

H-1671 **3-Glycidyloxypropyl trimethoxysilane** is a versatile organosilane coupling agent designed to improve adhesion between organic polymers and inorganic materials. Its epoxy-functional group reacts readily with a wide range of resins, while the trimethoxysilane end bonds firmly to substrates such as glass, metal, minerals, and fillers. This dual reactivity enhances mechanical strength, moisture resistance, and long-term durability in coatings, adhesives, sealants, and composite formulations. H-1671 helps optimize dispersion, strengthens interfacial bonding, and boosts overall performance in both waterborne and solvent-based systems.

Structural Formula:



Molecular Formula: $C_9H_{20}O_5Si$
Molecular Weight: 236.4
CAS No.: 2530-83-8
Chemical Name: 3-Glycidyloxypropyltrimethoxysilane

Physical and Chemical Data

Property	Value
Appearance	Colorless, transparent liquid
Purity	≥98.0%
Density (20℃, g/cm³)	1.0650–1.0750
Boiling Point (760 mmHg)	290℃
Flash Point (Closed Cup)	>95℃
Refractive Index (25℃)	1.4220–1.4320
Color (Pt-Co)	≤10
Free Chlorine	≤10

Product Applications

The epoxy group provides reactivity with various resins, while the trimethoxysilane group hydrolyzes to form silanols, which can condense with hydroxyl groups on inorganic surfaces. This forms a “molecular bridge” between inorganic materials and organic resins, acting as an effective coupling agent.

It can be used as an adhesion promoter, surface modifier, and dispersant, primarily to enhance the bonding strength and compatibility between inorganic mineral fillers, fibers, and polymeric resins, as well as to improve the adhesion and water resistance of resin coatings on inorganic substrates.

Typical applications include modification of engineering plastics and rubber, paints and coatings, inks, foundry resins, adhesives, sealants, fiberglass, abrasives, and electronic encapsulation materials.

H-1671 is an excellent adhesion promoter suitable for resins such as epoxy, phenolic, polyester, polysulfide rubber, polyamide, acrylic, PBT, polyurethane, and more.

Safety, Handling, and Storage

Before using this product, carefully read the latest safety data and toxicity information, as well as proper handling and storage instructions.

Store in a tightly sealed container in a cool, ventilated, and dry place. Protect from light, fire, and moisture. After opening, keep the container well-sealed to prevent moisture ingress and hydrolysis.

The shelf life is one year from the date of manufacture. Expired products may still be used if they pass inspection, subject to the buyer’s judgment.

Note: The company is only responsible for the product specifications at the time of shipment and assumes no liability for any indirect or incidental damages.

Packaging

Available in 5L, 25L, 200L, and 1000L drum packaging.