MANTA

Technical Data Sheet

Version: 1.0

Manta E560

Epoxy-Functional Silane Adhesion Promoter

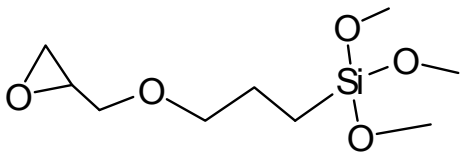
Description

Manta E560 is an epoxy-functional organosilane widely used as a coupling agent, surface modifier, and adhesion promoter. Its dual-reactive molecular structure features a reactive glycidoxy (epoxy) group and hydrolyzable trimethoxysilyl groups. This allows it to chemically bond both inorganic substrates (glass, metals, minerals) and organic polymers (epoxies, polyurethanes, acrylics), bridging the interfacial gap.

Unlike amino silanes, Manta E560 provides excellent non-yellowing characteristics and exceptional storage stability in reactive polymer systems.

Performance equivalent to Momentive Silquest A-187, Dow XIAMETER OFS-6040, Evonik Dynasylan GLYMO, WACKER GENIOSIL GPTM, and Shin-Etsu KBM-403.

Typical Physical Properties

Manta Code:	E560
Chemical Name:	γ-Glycidoxypropyltrimethoxysilane;
Synonyms:	[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane; GLYMO; GPTMS
CAS No. :	2530-83-8
EINECS No. :	219-784-2
Molecular Weight:	236.34
Appearance:	Colorless transparent liquid
Specific Gravity (ρ20°C, g/cm3):	1.060~1.075
Refractive Index (n25/D):	1.4220~1.4320
Purity (by GC, %):	98.0min
Chemical Structure:	

Properties

- Superior Polyurethane Stability: Offers significantly improved shelf-life stability in single-component polyurethane (1K PU) and SPUR systems compared to traditional amino silanes, avoiding premature crosslinking or gelling.
- Non-Yellowing: Imparts excellent adhesion without the yellowing or discoloration typically associated with primary or secondary amine adhesion promoters.
- Rheology & Dispersion: Significantly lowers resin viscosity in heavily mineral-filled plastics and composites, improving filler dispersibility and enabling higher filler loading.
- Mechanical & Chemical Resistance: Significantly increases flexural strength, tensile strength, and modulus of elasticity, while markedly improving resistance to water, vapor, acids, and bases.

Applications

Manta E560 is an important, high-performance ingredient across diverse industrial sectors:

1. Paints & Coatings: Acts as an additive and primer for improving wet and dry adhesion to challenging substrates, especially glass, aluminum, and steel.
2. Sealants & Adhesives: Widely used as a primer or internal additive in epoxies, polysulfides, and polyurethanes to enhance cohesive strength and substrate bonding.
3. Mineral-Filled Polymers: Ideal for the pretreatment of fillers (silica, talc, clay) and pigments, or as a

direct additive to composite polymer matrices.
4. Composites & Fiberglass: Serves as a critical sizing ingredient or finish for glass fiber and glass fabric, protecting the fibers from moisture degradation.
5. Foundry Resins: Acts as a powerful additive to polyurethane and epoxy resin binders in the foundry industry.
6. Copper Clad Laminates (CCL) & Printed Circuit Boards (PCBs): Used for the surface treatment of electronic-grade fiberglass cloth. It ensures very tight bonding between the epoxy resin matrix and copper foil, providing superior resistance to high-temperature wave soldering without delamination.
7. Epoxy Molding Compounds (EMC) / Semiconductor Packaging: A critical additive in semiconductor encapsulation materials, preventing moisture penetration and protecting delicate microchips from short circuits and environmental degradation.

Packaging

In 25kg pail, 200kg drum and 1000kg IBC

Safety and Storage

Keep away from heat and open flame. When stored at or below 25°C in the original unopened containers, this product has a usable life of 24 months from the date of production (200L drum).

Contact Information

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