Key Organics
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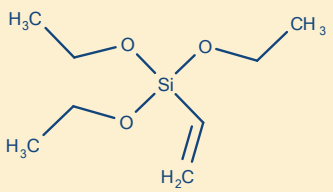
40th anniversary



FS-3827
CAS Number 78-08-0

Vinyltriethoxysilane (VTES)

Dual-function crosslinker and adhesion promoter, for crosslinking polyethylene (PEX) and GRP

Overview

Vinyltriethoxysilane is a bifunctional silane where the vinyl group enables free-radical grafting onto polyolefin chains, and the triethoxysilyl groups subsequently hydrolyse to form moisture-crosslinked siloxane (Si–O–Si) networks. This unique combination makes it the standard reagent for moisture-cure crosslinking of polyethylene — the Sioplas and Monosil PEX processes both use VTMS/VTES as the crosslinking agent. As a coupling agent for glass fibres, the vinyl group copolymerises with styrene or acrylic monomers in GRP matrix resins, significantly improving wet strength.

Key applications

- Crosslinked polyethylene (PEX) production for underfloor heating pipes and hot-water plumbing
- Wire and cable insulation — moisture-cure crosslinking of polyethylene for improved thermal and electrical performance
- Glass fibre sizing for polyester and acrylic composites — improves wet mechanical properties
- Moisture scavenger in one-component silicone sealants and adhesives
- Comonomer for vinyl acetate and acrylic copolymer latexes used in coatings and adhesives
- Adhesion promoter for inorganic fillers in vinyl-crosslinked polymer systems

Key Benefits:

- ✓ Affordable
- ✓ Usually Ex-Stock
- ✓ Purity >97%
- ✓ Bulk Pricing

Available to purchase today!

More from the Collection

Selected literature

[1] Oliveira G.L. & Costa M.F. (2010). Silane Crosslinked Polyethylene from Different Commercial PEs. Materials Research 13, 77–82. https://doi.org/10.1590/S1516-14392010000100016

[2] Liotta C.L. et al. (2015). Radical-mediated graft modification of polyethylene models with vinyltrimethoxysilane: a theoretical analysis. Structural Chemistry 26, 97–107. https://doi.org/10.1007/s11224-014-0471-x

[3] Wikipedia: Vinyltriethoxysilane. Applications in PEX and glass fibre composites. https://en.wikipedia.org/wiki/Vinyltriethoxysilane

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