MANTA

Technical Data Sheet

Version: 1.0

Manta PMTES

Poly-Methyltriethoxysilane (Pre-hydrolyzed Oligomer)

Description

Manta PMTES is a pre-hydrolyzed oligomer of methyltriethoxysilane (MTES) with an average degree of polymerization of 2 to 3. It presents as a combustible liquid with a characteristic mild odor.

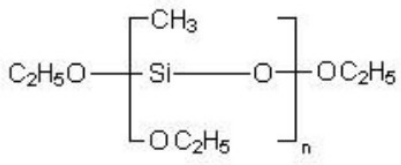
In the presence of atmospheric moisture—and accelerated by acid or alkali catalysts—Manta PMTES readily undergoes hydrolysis and subsequent condensation. This reaction forms a highly cross-linked, polymeric siloxane network that cures into a durable, invisible film.

As a premium, neutral, solvent-based organosilicon water repellent, Manta PMTES is engineered to deliver exceptional water repellency and high thermal stability. Once applied, it chemically bonds to the substrate, offering outstanding weatherability, aging resistance, chemical resistance, and dirt pick-up resistance (anti-pollution). Crucially, the treated surface retains excellent breathability (water vapor permeability), ensuring moisture is not trapped within the substrate.

Typical Physical Properties

Manta code:	PMTES
Chemical Name:	Poly-methyltriethoxysilane
Appearance:	Colorless transparent or light yellow liquid
Viscosity(25°C, mm2):	1.0 ~ 5.0 (One grade is 1.0 ~ 3.0; another is 3.0 ~ 5.0)
Ethanol:	≤10%
Specific gravity (25 ℃):	0.920~1.050
pH:	5.0~6.0

Chemical Structure:



Properties

- This product is to be diluted with water when used .
- This product is easy for construction, low cost, long lasting, abrasion resistance, scrub resistance, high temperature (-50 ~ 150 ℃).

Applications

1. Premium Architectural & Heritage Waterproofing

Highly recommended for the durable waterproofing of high-grade building facades, insulation materials, and cultural heritage conservation (historical monuments).

Formulates into a siloxane film that blocks water infiltration while strictly maintaining the substrate's breathability.
Effectively prevents cracking, spalling, and weathering in masonry, concrete, and wood, while preserving thermal insulation performance.

2. High-Performance Crosslinker for RTV Silicones
Acts as a superior crosslinking agent for Room-Temperature Vulcanizing (RTV) silicone rubbers.
Key Technical Advantage: When replacing traditional TEOS (tetraethyl orthosilicate) or acetoxy curing systems, Manta PMTES imparts significantly higher tensile strength and elongation properties to the cured silicone elastomer.

3. Formulation with OH-Polymers & Sealants
Readily compounds with hydroxyl-terminated PDMS (known industrially as 107 silicone fluid / OH-polymer) to formulate premium elastomeric compounds and high-performance building sealants.

4. Release Agents & Defoamers
Exhibits excellent isolation properties, making it an ideal base for release coatings against pressure-sensitive adhesives (PSAs) and as a highly effective mold release agent.
Through controlled hydrolysis, it can also be utilized in the manufacturing of advanced defoaming agents.

5. Specialty Transparent Resins & Gypsum Treatment
Can be further hydrolyzed and polymerized to produce high-clarity, transparent silicone resin coatings.
Utilized as an essential moisture-proofing additive in the treatment of gypsum decorative materials, complementing fire-retardant formulations.

Looking for longer-lasting, highly alkali-resistant alternatives for masonry protection? Explore our Manta LO310 (Octyl Silane) and Manta L1232 (Dodecyl Silane).

Packaging
In 50kg, 200kg drum.

Safety and Storage
Keep in a cool and dry place and avoid storage in direct sunlight. Shelf life is 6 months.

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