MANTA

Technical Data Sheet

Version: 1.0

Manta L1231

Long-Chain Alkyl Functional Silane (C12)

Description

Manta L1231 is a monomeric long-chain alkyl functional silane, chemically identified as n-dodecyltrimethoxysilane. Featuring a 12-carbon (C12) linear alkyl chain, this product delivers exceptional hydrophobicity and outstanding weather resistance (UV stability).

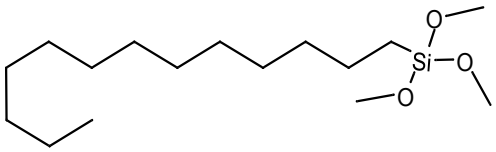
Compared to shorter-chain silanes (e.g., C8 or C10), its heavier molecular structure significantly reduces volatility and provides a moderate, highly controlled penetration depth. This makes Manta L1231 ideal for treating highly sensitive substrates and achieving long-lasting surface modification without altering the natural breathability or aesthetics.

Performance equivalent to Wacker GENIOSIL® DD-Trimethoxy.

Typical Physical Properties

Manta Code:	L1231
Chemical Name:	n-Dodecyltrimethoxysilane
Synonyms:	(Trimethoxysilyl)dodecane
CAS No. :	3069-21-4
EINECS No. :	221-332-4
Molecular Formula:	C15H34O3Si
Molecular Weight:	290.52
Appearance:	Colorless transparent liquid
Purity (by GC, %):	98.0 min
Specific Gravity (ρ20°C, g/cm3):	0.885~0.895
Refractive Index (nD 25°C):	1.4220~1.4320

Chemical Structure:



Applications

Manta L1231 is versatile and serves as a water repellent and interface modifier across a wide spectrum of industries:

1. Cultural Heritage Conservation (Specialty Use): Due to its very low volatility, controlled penetration, and durable hydrophobic network, it is highly recommended for the protection and restoration of historical monuments, artifacts, and highly sensitive porous masonry.
2. Natural Stone & Concrete Protection: Provides deep, long-lasting water repellency for natural stone, masonry, and concrete while retaining the water vapor permeability and the original appearance of the substrate.
3. Surface Modification of Mineral Fillers: Significantly improves the dispersibility, compatibility, and hydrophobicity of inorganic fillers and pigments in non-polar plastics, rubbers, and resin matrices.
4. Coatings, Adhesives & Sealants: Acts as a performance-enhancing additive to significantly improve moisture resistance and interfacial adhesion.
5. Mold Release Applications: Effectively functions as a semi-permanent release agent in various molding processes due to the strong non-polar nature and low surface energy of its long C12 alkyl chain.

Packaging

In 20kg pail, 180kg drum and 900kg IBC

Safety and Storage

Highly Reactive & Methanol Release: Manta L1231 reacts with water and atmospheric moisture to form cross-linked polysiloxanes. CRITICAL WARNING: This hydrolysis reaction releases METHANOL as a toxic and highly flammable byproduct. Strictly ensure excellent local exhaust ventilation during formulation, application, and curing to prevent vapor accumulation.

Storage Conditions: Store in a cool, dry, and well-ventilated area strictly away from open flames and moisture. Keep containers hermetically sealed at all times to prevent premature moisture cross-linking.

When stored at or below 35°C in the original unopened containers, the shelf life is 12 months from the date of production. Not regulated as dangerous goods for transport; refer to the Safety Data Sheet for hazard classification and safe handling.

Contact Information

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