MANTA

Technical Data Sheet

Version: 1.0

Manta F1732

Fluoroalkyl-Functional Silane (AF & DWR Agent)

Description

Manta F1732 is a high-performance fluoroalkylsilane surface modifier, chemically identified as 1H,1H,2H,2H-perfluorodecyltriethoxysilane. Unlike standard silicones, it provides both excellent hydrophobicity (water contact angle > 110°) and superior oleophobicity (oil repellency).

Distinguished by its ethoxy reactive groups, F1732 offers a significant safety and environmental advantage: it releases ethanol upon hydrolysis rather than toxic methanol. This makes it a lower-toxicity choice for consumer-facing applications. It covalently bonds to substrates, forming a nanometer-thin, invisible barrier that offers:

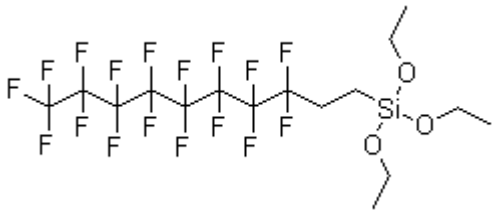
- Excellent Easy-to-Clean (ETC) and Anti-Fingerprint (AF) properties.
- Ultra-low surface energy (< 15 dynes/cm).
- Outstanding chemical and UV resistance.
- Strong chemical bonding to glass, ceramics, and metal oxide surfaces.

Equivalent grade: Shin-Etsu KBE-7803.

Typical Physical Properties

Manta Code:	F1732
Chemical Name:	1H,1H,2H,2H-Perfluorodecyltriethoxysilane
Synonyms:	(Heptadecafluoro-1,1,2,2-tetrahydrodecyl)triethoxysilane
CAS No. :	101947-16-4
EINECS No. :	435-230-4
Appearance:	Colorless transparent liquid
Purity (by GC, %):	97.0 min
Density (20°C, g/cm3):	1.384±0.005
Refractive Index (nD 25°C):	1.340±0.005

Chemical Structure:



Applications

1. Consumer Electronics (AF Coating):

Used as an anti-fingerprint and easy-to-clean coating for smartphone screens, camera lenses, and AR/VR glasses. Reduces smudge adhesion and improves touch smoothness.

2. Building Protection:

Penetrating sealer for natural stone, marble, and concrete. Repels water, oil, and grease stains without altering the substrate's appearance or breathability.

3. Automotive Glass & Paint:

Creates a long-lasting hydrophobic layer on windshields (rain repellent) and protects car paint from bird droppings and oily road grime.

4. Metal Surface Treatment:

Surface treatment for aluminum, copper, and stainless steel. Makes surfaces resistant to fingerprints and easy to maintain.

5. Functional Textiles:

Provides durable water and oil repellency (DWR) to outdoor fabrics, preventing stains from rain,

food, and oils.

6. Specialty Glass & Ceramics:

Self-cleaning treatment for solar panels, shower glass, and sanitary ware, preventing soap scum and mineral deposits.

Packaging

In 1kg fluorinated bottle, 25kg pail, 200kg drum.

Safety and Storage

Hydrolysis Reaction & Ethanol Release: Manta F1732 is highly reactive with moisture. Upon contact with atmospheric humidity or water, it hydrolyzes and releases ethanol. Ensure adequate local exhaust ventilation during application and formulation to prevent the accumulation of ethanol vapors.

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

Shelf Life: 9 months from the date of manufacture when stored properly in original, unopened containers. It is shipped as non-hazardous substance.

Contact Information

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