

# Manta MSES

Sodium Methyl Siliconate (Aqueous Solution)

## Description

Manta MSES is a water-reducible sodium methyl siliconate concentrate formulated to deliver enduring hydrophobicity and moisture defense across a wide array of porous mineral surfaces. By chemically reacting with ambient carbon dioxide and inherent surface hydroxyls, the active siliconate constructs a resilient, insoluble siloxane matrix deep within the substrate's capillary pathways. This advanced mechanism drastically cuts capillary water uptake while fully retaining the material's natural breathability (vapor permeability).

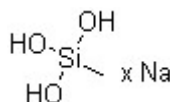
Supplied as a highly alkaline aqueous formulation, Manta MSES is extremely cost-effective. It can be easily diluted with water for the mass-scale integral water-repellent treatment of building materials, heavy civil engineering structures, and oilfield applications.

Equivalent grade: Dow XIAMETER™ OFS-0772 Siliconate.

## Typical Physical Properties

Manta code:	MSES
Chemical Name:	Sodium methyl siliconate
Synonyms:	Methylsilanetriol sodium salt
CAS No.:	16589-43-8
EINECS No. :	240-648-3
Molecular formula:	CH <sub>3</sub> NaO <sub>3</sub> Si
Appearance:	Colorless or light yellow transparent liquid
Solid content:	30%±2
Viscosity (25 ° C, mm <sup>2</sup> / S)	8-15
Specific gravity (25 °C):	1.10 - 1.30
pH value:	≥13
Silsesquioxane content% (m/m)	≥12
Alkali content% (m/m):	5-10

Chemical Structure:



## Waterproof mechanism:

Manta MSES is a reactive penetrating waterproofing agent. Upon application, the active siliconate reacts with water and atmospheric carbon dioxide (CO<sub>2</sub>) to form methylsilicic acid. This intermediate rapidly undergoes condensation polymerization, chemically bonding with the hydroxyl groups of the building material. This process generates an insoluble, highly cross-linked polymethylsiloxane resin film deep within the structural capillaries.

### Features

**Eco-Friendly Base:** A water-based, zero-VOC formulation that complies with modern environmental air-quality regulations (Note: Liquid is highly alkaline).

**Exceptional Impermeability:** Drastically reduces capillary water absorption, delivering an impermeability rate up to 4 times higher than that of standard untreated concrete.

**Cost-Effective Scalability:** Offers a highly economical cost-to-performance ratio, making it the premier choice for large-scale industrial and civil projects.

**Rebar Passivation:** Exerts a strong alkaline passivating effect within the concrete matrix, actively protecting internal reinforcing steel (rebars) from corrosion.

### Applications

#### 1. Industrial Dip-Treatment & Construction Materials (Core Application)

The ultimate cost-efficient waterproofing solution for the factory-line mass production of fired clay bricks and roofing tiles. Widely utilized for integral mixing or dip-treatment of high-absorbent inorganic blocks, including autoclaved aerated concrete (AAC), gypsum, and perlite boards.

#### 2. Heavy Civil Engineering & Water Containment

Essential for the anti-penetration protection of massive reinforced concrete structures. Extensively applied in underground infrastructure, tunnels, dams, and sewage treatment tanks to drastically reduce water erosion and freeze-thaw degradation.

#### 3. Oil & Gas Drilling Fluids & EOR

Acts as a critical shale inhibitor and fluid loss additive in oilfield operations. It adjusts the viscosity of drilling muds, stabilizing shale and preventing wellbore collapse. Utilized in Enhanced Oil Recovery (EOR) to maintain crustal skeleton integrity.

#### 4. Architectural Surface Waterproofing

Serves as a breathable sealer for exterior walls and basements. (Note: Due to its sodium base, over-application on dark or highly decorative surfaces may result in a white carbonate residue. For premium aesthetic stone/brick, Manta MSEP Potassium Silicate is recommended).

### Packaging

In 50kg, 250kg drum, 1350kg IBC

### Safety and Storage

Keep in a cool and dry place and avoid storage in direct sunlight. Shelf life is 12 months.

### Contact Information

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