MANTA

Technical Data Sheet

Version: 1.0

Manta AM121

Alpha-Functional Silane (Water Scavenger & Chain Extender)

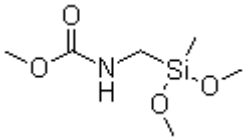
Description

Manta AM121 is a specialized alpha-organofunctional silane. Its molecular architecture features a nitrogen atom separated from the silicon atom by only a single methylene group. This extreme proximity induces the "alpha-effect," making its methoxy groups highly reactive toward moisture compared to conventional gamma-silanes.

Because of this hyper-reactivity combined with its bifunctional (dialkoxy) structure, Manta AM121 acts simultaneously as a powerful water scavenger and a highly effective chain extender. It is a key compounding additive for high-performance, moisture-curing adhesives and sealants where extreme storage stability and high elasticity are required.

Performance equivalent to WACKER GENIOSIL XL 65.

Typical Physical Properties

Manta Code:	AM121
Chemical Name:	[(Methylcarbamato)methyl]dimethoxymethylsilane
Synonyms:	[(Dimethoxymethylsilyl)methyl]-O-methylcarbamate; Methyl N-[[(dimethoxy)(methyl)silyl]methyl]carbamate;
CAS NO.	23432-65-7
Molecular Formula:	$C_6H_{15}NO_4Si$
Molecular Weight:	193.27
Appearance:	Colorless Transparent Liquid
Density (ρ20°C, g/cm³):	1.05-1.15
Refractive Index (n25/D):	1.4300-1.4400
Purity:	≥95%
Chemical Structure:	

Features

1. Superior Water Scavenging: The alpha-effect drives immediate reaction with trace moisture during compounding and packaging, significantly extending the shelf life and storage stability of moisture-sensitive polymer formulations.
2. Chain Extension (Low Modulus): The dialkoxysilyl configuration ensures that, during the curing phase of the prepolymer, AM121 acts as a linear chain extender rather than a 3D crosslinker. This results in elastomers with a significantly lower degree of crosslinking, yielding highly flexible, low-modulus products.
3. Room Temperature Reactivity: Cures very rapidly upon exposure to atmospheric moisture at room temperature without the need for heavy metal catalysts (like tin).

Applications

Manta AM121 is designed for reactive polymer systems:

1. Silane-Terminated Polymers (STP/MS): Important in formulations utilizing highly reactive silane-modified polymers (e.g., alpha-STP systems). It provides robust moisture scavenging during production while enhancing the flexibility of the final cured sealant.
2. High-Movement Sealants: Specifically formulated for expansion joint sealants in construction and

automotive industries, where low modulus of elasticity and extreme elongation are mandatory.
3. Advanced Adhesives: Used in moisture-curing polyurethane (1K PU) and hybrid adhesive systems to eliminate outgassing and extend pot-life/shelf-life.

Packaging

In 500g, 1000g, 25kg pail, 200kg drum.

Safety and Storage

Storage Conditions: Keep tightly closed in a cool, strictly dry, and well-ventilated area. Protect from direct sunlight and ambient moisture. Premature exposure to humidity will trigger rapid hydrolysis.
Shelf Life: Minimum 9 months when stored in the original, unopened containers under proper conditions.
Transportation: Shipped as a non-hazardous substance according to transport regulations.

Contact Information

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