

GENIOSIL® UPTM

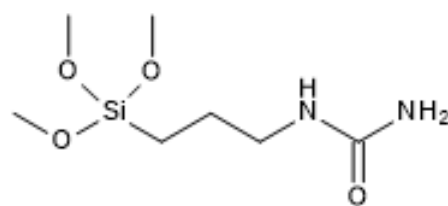


Organofunctional Silanes

3-Ureidopropyltrimethoxysilane

GENIOSIL® UPTM is a clear liquid with a characteristic odor.

CAS No. 23843-64-3 | Empirical formula $C_7H_{18}N_2O_4Si$ | Molecular weight 222,31 g/mol



Properties

Besides the application of GENIOSIL® UPTM as an adhesion promoter in formulations and primers, it is also used as a coupling agent for modifying fillers and pigments to enhance dispersibility in organic binders and plastics and thereby improve mechanical properties (flexural strength, tensile strength, modulus etc.). GENIOSIL® UPTM is an alkoxy silane with a functionalized amino group. It's a clear, colorless to light yellowish liquid with a characteristically aromatic odor. The compound reacts with moisture under hydrolysis of the alkoxy groups and forms silanols, which reacts further forming siloxanes. As a bifunctional alkoxy silane, GENIOSIL® UPTM can also interact with numerous organic polymers and thus function as a molecular bridge between organic and inorganic substrates.

Technical data

General Characteristics

Property	Condition	Value	Method
Appearance	-	clear liquid	-
Auto ignition temperature	-	349 °C	-
Boiling point ⁽¹⁾	1013 hPa	200 - 250 °C	-
Color index APHA	-	0 - 50	-
Density	25 °C	1.1424 g/cm ³	DIN 51757
Flash point	-	128 °C	Pensky-Marten
Melting point	1013 hPa	10 °C	-
Purity	-	≥ 98.0 %	-
Refractive index	25 °C	approx. 1.4625	DIN 51423
Viscosity, kinematic	25 °C	340 mm ² /s	-

¹Decomposition

These figures are only intended as a guide and should not be used in preparing specifications.

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Applications

- Adhesives
- Building & Construction Adhesives
- Chemical Industry
- Composites
- Industrial Adhesives
- Industrial Coatings
- Insulation Materials
- Primers for Paints & Coatings
- Sealants
- Thermoplastics & Elastomers

Application details

1. General processing information

GENIOSIL® UPTM is very readily soluble in alcohols, esters and ketones. It is only slightly soluble in n-hexane. With other alcohols excepting methanol, an exchange reaction forms mixed alkoxy silane bonds. In neutral water GENIOSIL® UPTM reacts under hydrolysis and condensation of the silanol groups.

2. GENIOSIL® UPTM as an Adhesion Promoter in Formulations

In silane crosslinking formulations GENIOSIL® UPTM may be added to the formulation as an adhesion promoter.

Processing is effected by means of standard mixing methods. Usually, about 1 - 2 wt % silane is added to the formulation.

3. GENIOSIL® UPTM as a surface modifier

Fillers are treated either with pure GENIOSIL® UPTM or a solution thereof. It may be necessary to pretreat the substrate with water. In an alternative procedure referred to as "blending", GENIOSIL® UPTM is added directly to the polymer - either before the organic materials is compounded with the filler or at the same time. However, this is only possible if the polymer is compatible with GENIOSIL® UPTM. Important application of GENIOSIL® UPTM is the use as an adhesion promoter in sealants, adhesives and coatings, and as a coupling agent for inorganic particles, pigments or fillers.

Packaging and storage

Packaging

GENIOSIL® UPTM is available in different packaging units:

- 200 KG Drum

- 25 KG Can

Storage

The 'Best use before end' date of each batch is shown on the product label. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case however, the properties required for the intended use must be checked for quality assurance reasons.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER subsidiaries or may be printed via WACKER web site <http://www.wacker.com>.

QR Code GENIOSIL® UPTM



For technical, quality or product safety questions, please contact:

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