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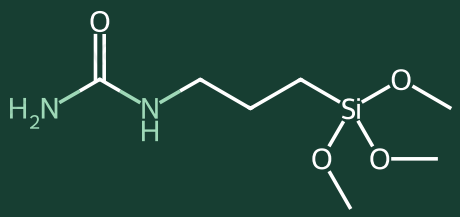
Technical data sheet
TDS-LEGRA-7011-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

7011-L

3-Ureidopropyltrimethoxysilane

Ureido-functional trimethoxy silane for resin binders, primers and mineral interface studies



Chemical identity

Chemical name
3-Ureidopropyltrimethoxysilane

CAS number
23843-64-3

Molecular formula
$C_7H_{18}N_2O_4Si$

Molecular weight
222.31 g/mol

Hydrolysis by-product
Methanol

Product description

LANDUSIL LEGRA 7011-L is 3-ureidopropyltrimethoxysilane, an organosilane containing a ureido group and three hydrolyzable methoxy groups. It is evaluated as an interface component in compatible resin binders, primers and filled polymers. Ureido functionality differs from a free primary amine and must be considered within the actual cure chemistry.

The methoxy groups react with water to form silanols and release methanol. Silanols can condense with hydroxylated glass, minerals and oxide-bearing surfaces or form siloxane species. The ureido group provides polar interactions and nitrogen functionality at the organic interface. Deposition, resin reaction and final adhesion depend on the substrate, formulation and treatment sequence; verify each in the intended process.

Features and benefits

- Ureido functionality for polar resin interfaces
- Trimethoxy groups support controlled surface treatment
- Hydrolysis releases methanol
- For evaluation in sizes, primers and resin binders
- Distinct from free-amine curing agents

Specification

Property	Unit	Value	Test method
Appearance		**Colorless to light yellow, clear liquid**	Visual
Purity (GC)	%	**min. 96.0**	Gas chromatography

Tested on every batch and reported on the Certificate of Analysis.

Typical properties

Density, 25 °C	approx. 1.150 g/cm³
Flash point, method not reported	approx. 98 °C

For guidance only; not part of the specification.

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Applications

Glass fiber sizes and finishes
Evaluate with the selected film former, fiber surface and drying cycle; check wet-out and conditioned composite performance.

Adhesives and primers
Assess coupling to glass, ceramic and oxide-bearing metal surfaces in the actual resin and cure package.

Polyurethane development
Evaluate moisture, residual methanol, cure balance and storage stability before selecting the addition stage or a controlled prereaction.

Mineral-filled polymers
Pretreat suitable mineral fillers or screen resin addition, comparing dispersion, processing stability and cured properties separately.

Foundry and abrasive binders
Screen in compatible sand binders or resin-bonded abrasive systems; qualify mixing, cure and conditioned bond strength.

Guidelines for use

Surface treatment	Develop a hydrolysis bath for the actual glass or filler. Control pH, water, concentration and bath age, then establish a drying cycle that leaves a usable interface without excessive deposited material.
Resin addition	Introduce into a compatible binder with sufficient mixing. Determine the addition level through trials, and monitor viscosity, cure, storage stability and failure mode after conditioning.
Reactive systems	Account for water and methanol in moisture-sensitive formulations. Establish the reaction sequence experimentally; do not substitute the product by free-amine equivalent weight.

These levels are starting points. Determine the optimum level and method in trials under your own production conditions.

Handling and safety

- Hydrolysis releases toxic methanol. Use ventilation and keep transfer equipment dry.
- Can irritate skin and eyes. Wear suitable protective gloves, goggles and protective clothing.
- Avoid vapor or mist inhalation. Prevent contamination by water and incompatible reactive materials.
- Read the Safety Data Sheet before use.

Storage and shelf life

Store in tightly closed original containers in a cool, dry, well-ventilated place, protected from moisture, heat and sunlight. Shelf life is 12 months in unopened containers under recommended conditions. Reseal promptly after sampling or transfer to limit moisture entry.

Packaging

25 kg plastic drum, 200 kg steel drum, 1,000 kg IBC. Other pack sizes on request.

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