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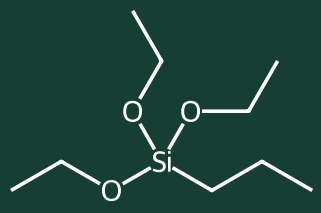
Technical data sheet
TDS-LEGRA-5030-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

5030-L

n-Propyltriethoxysilane

Propyl-functional ethoxysilane for mineral surfaces and hybrid sol-gel systems



Chemical identity

Chemical name
n-Propyltriethoxysilane

CAS number
2550-02-9

EC number
219-842-7

Structure
$CH_3CH_2CH_2Si(OC_2H_5)_3$

Molecular formula
$C_9H_{22}O_3Si$

Molecular weight
206.35 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 5030-L is n-propyltriethoxysilane, an alkylalkoxysilane combining a linear propyl group with three hydrolyzable ethoxy groups. It is a precursor for mineral surface treatment and propyl-containing silica and siloxane development.

Hydrolysis releases ethanol and forms silanols that can condense with hydroxylated mineral surfaces or other silanols. The propyl group adjusts the organic character of the treated interface or hybrid network. Water, catalyst, solvent and drying conditions control the competition between surface bonding and self-condensation. Dispersion, water uptake and film durability must be measured in the intended formulation.

Features and benefits

- Linear propyl group adjusts surface character
- Three ethoxy groups for siloxane network formation
- Suitable for hydroxylated mineral surface-treatment trials
- Co-precursor for propyl-containing hybrid silica
- Releases ethanol during hydrolysis

Specification

Property	Unit	Value	Test method
Appearance		**Colorless clear liquid**	Visual
Purity (GC)	%	**min. 98.0**	Gas chromatography
Density, 20 °C	g/cm³	**0.887 – 0.897**	Density measurement
Refractive index, n_D^{25}	–	**1.3910 – 1.4010**	Refractometry

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

Typical properties

Flash point, method not specified	approx. 45 °C
Solubility	Soluble in alcohol; insoluble in water with hydrolysis

For guidance only; not part of the specification.

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Applications

Concrete, masonry and stone
Candidate treatment for prepared porous mineral substrates; compare water uptake, vapor transport, color and staining after curing and ageing.

Sol-gel materials
Propyl-bearing co-precursor for mixed silica networks, organically modified glasses and experimental aerogel systems.

Silicone compound development
Treatment candidate for selected silica grades before incorporation into silicone systems; fix the treatment sequence and cure for comparison.

Mineral filler treatment
Surface modifier for silica, quartz and selected oxide fillers. Assess powder flow, agglomeration and viscosity in the selected binder.

Glass and ceramic films
Component in hybrid coating trials where adhesion, transparency, haze and abrasion are measured together.

Guidelines for use

Surface application	Use a compatible treatment system on a clean, prepared mineral surface. Select solvent, concentration and curing conditions for the substrate pore structure and moisture state.
Powder pretreatment	Distribute uniformly over an agitated hydroxylated filler. Control drying and residual volatiles, then test powder handling and behavior in the intended binder.
Sol-gel co-condensation	Combine with compatible silica precursors under controlled water addition and mixing. Track pH, ethanol evolution, gel time and film cracking before selecting the drying schedule.

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

Handling and safety

- Flammable liquid and vapor. Keep away from heat, sparks and open flames; ground transfer equipment and provide ventilation.
- Causes skin and eye irritation and may irritate the respiratory tract. Avoid breathing vapor and use suitable gloves and splash goggles.
- Moisture causes hydrolysis and ethanol release. Keep bulk material dry and manage vapors during hydrolysis, coating and drying.
- Read the Safety Data Sheet before use.

Storage and shelf life

Store in original, tightly sealed containers in a cool, dry, well-ventilated area protected from moisture, sunlight and ignition sources. Use opened containers promptly. Shelf life is 12 months from manufacture in unopened containers.

Packaging

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

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