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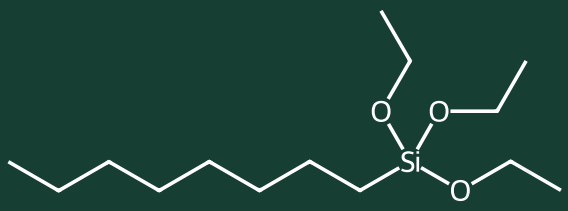
Technical data sheet
TDS-LEGRA-5050-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

5050-L

n-Octyltriethoxysilane

Linear C8 ethoxysilane for treated mineral fillers and formulated surface treatments



Chemical identity

Chemical name
n-Octyltriethoxysilane

CAS number
2943-75-1

EC number
220-941-2

Structure
$CH_3(CH_2)_7Si(OC_2H_5)_3$

Molecular formula
$C_{14}H_{32}O_3Si$

Molecular weight
276.49 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 5050-L is n-octyltriethoxysilane, a linear C8 alkyl silane with three hydrolyzable ethoxy groups. It is a precursor for mineral and pigment treatment, cementitious surface formulations and controlled siloxane intermediates.

The ethoxy groups hydrolyze with ethanol release and form silanols that can condense with accessible hydroxyl groups or with other silanols. The retained octyl chain contributes nonpolar character to the resulting interface. Control water, pH, solvent, temperature and reaction time to balance surface reaction and self-condensation. Useful wetting, dispersion and moisture response depend on the complete treated material.

Features and benefits

- Linear octyl group contributes nonpolar surface character
- Three ethoxy groups provide condensation sites
- Surface-treatment precursor for minerals and pigments
- Co-precursor for siloxane oligomers and hybrid networks
- Releases ethanol during hydrolysis

Specification

Property	Unit	Value	Test method
Appearance		**Colorless clear liquid**	Visual
Purity (GC)	%	**min. 97.0**	Gas chromatography
Color	Pt-Co	**max. 30**	Color comparison
Density, 20 °C	g/cm³	**0.879 ± 0.005**	Density measurement
Refractive index, n_D^{25}	–	**1.4170 ± 0.0050**	Refractometry

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

Typical properties

Flash point, method not specified	approx. 100 °C
Viscosity, 20 °C	approx. 2 mPa·s

For guidance only; not part of the specification.

Applications

Mineral fillers and pigments
Treatment candidate for silica, titanium dioxide, iron oxide and suitable mineral fillers before dispersion or compounding into the selected binder.

Cable compounds and thermal pastes
Candidate for separate filler treatment before formulation. Evaluate electrical and mechanical behavior or thermal contact resistance in the receiving compound.

Siloxane intermediates
Building block for controlled oligomers and hybrid networks, with residual alkoxy groups, alcohol removal and work-solution stability monitored.

Concrete and masonry formulations
Component in formulated treatments for cured concrete, brick and stone; compare water absorption, appearance and vapor transport after ageing.

Porous silica supports
Precursor for C8 attachment to existing silica surfaces; measure loading, pore accessibility, leaching and the intended separation response.

Guidelines for use

Filler or pigment treatment	Screen 0.5 – 1.5 % on filler or pigment weight. Distribute uniformly, control reaction and drying, then compare dispersion, moisture uptake and viscosity in the intended binder.
Mineral surface application	Prepare a compatible treatment formulation for the actual porous substrate. Apply to a clean surface and validate treatment distribution, color and water uptake under defined curing conditions.
Co-condensation	Introduce the hydrolysis components under controlled mixing and temperature. Follow pH, ethanol evolution, gel time and residual alkoxy groups before further processing.

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

Handling and safety

- Can burn when heated. Keep away from ignition sources and provide ventilation during transfer, formulation and drying.
- Avoid eye and skin contact and breathing mist. Use suitable chemical-resistant gloves and splash goggles.
- Moisture causes hydrolysis and ethanol release. Keep bulk material dry and prevent alcohol-vapor accumulation during processing.
- Read the Safety Data Sheet before use.

Storage and shelf life

Store in original, tightly closed containers in a cool, dry, well-ventilated area protected from moisture and direct sunlight. Use opened containers promptly. Shelf life is 12 months in unopened containers under these conditions.

Packaging

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

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