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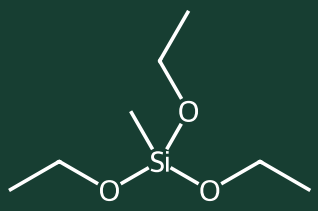
Technical data sheet
TDS-LEGRA-5010-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

5010-L

Methyltriethoxysilane

Methyl-functional ethoxysilane for mineral surface treatment and sol-gel networks



Chemical identity

Chemical name
Methyltriethoxysilane

CAS number
2031-67-6

EC number
217-983-9

Structure
$CH_3Si(OC_2H_5)_3$

Molecular formula
$C_7H_{18}O_3Si$

Molecular weight
178.30 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 5010-L is methyltriethoxysilane (MTES), an alkylalkoxysilane with one methyl group and three hydrolyzable ethoxy groups. It is used as a precursor in mineral surface treatment, silicone-resin synthesis and organic-inorganic sol-gel development.

The ethoxy groups hydrolyze to silanols with the release of ethanol. Silanols can condense with hydroxylated mineral surfaces or with other silanols to form siloxane bonds. The retained methyl group adjusts the surface character of the resulting interface or network. Water content, pH, catalyst, solvent and drying conditions determine the balance between surface reaction and self-condensation; final film or substrate performance requires application testing.

Features and benefits

- Three ethoxy groups for hydrolysis and condensation
- Retained methyl group adjusts surface character
- Precursor for branched siloxane networks
- Suitable for mineral and silica surface-treatment trials
- Releases ethanol during hydrolysis

Specification

Property	Unit	Value	Test method
Appearance		**Colorless clear liquid**	Visual
Purity (GC)	%	**min. 98.0**	Gas chromatography

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

Typical properties

Boiling point, 760 mmHg	approx. 142 °C
Flash point, method not specified	approx. 23 °C
Refractive index, n_D^{20}	approx. 1.3832

For guidance only; not part of the specification.

Applications

Concrete, masonry and stone
Candidate treatment for prepared porous mineral surfaces; assess water uptake, vapor transport, color and ageing on the actual substrate.

Glass and optical surfaces
Component in experimental silica-based layers for glass and photovoltaic cover-glass development; evaluate transmission and haze after curing.

Organosilicon synthesis
Building block for silicone resins, hybrid particles and prehydrolysates with controlled residual alkoxy content and condensation state.

Sol-gel coatings
Methyl-bearing precursor for mixed silica and hybrid films. Balance transparency, porosity, adhesion and abrasion resistance in the complete formulation.

Mineral powder treatment
Surface modifier for silica, quartz and selected oxide fillers before incorporation into a compatible binder. Check agglomeration and viscosity.

Guidelines for use

Surface treatment	Apply to a clean, prepared mineral surface using a compatible treatment system. Match concentration, solvent and curing to substrate porosity; compare treated and untreated panels.
Sol-gel processing	Combine with compatible inorganic precursors using controlled water addition and mixing. Follow pH, alcohol evolution, viscosity and gel time, then evaluate the dried film.
Powder treatment	Distribute the treatment uniformly over an agitated, hydroxylated filler. Dry under controlled conditions and measure powder flow, residual volatiles and binder compatibility.

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. Eliminate ignition sources, ground transfer equipment and provide suitable ventilation.
- Hydrolysis releases ethanol. Protect the bulk liquid from moisture and control vapor removal during processing.
- Avoid eye and skin contact; wear chemical-resistant gloves and splash goggles. Keep incompatible oxidizing materials away.
- 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 sunlight. Use opened containers promptly. Shelf life is 12 months from manufacture 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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