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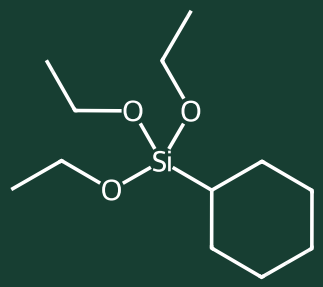
Technical data sheet
TDS-LEGRA-5090-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

5090-L

Cyclohexyltriethoxysilane

Cycloaliphatic ethoxysilane for hybrid silica and mineral-interface development



Chemical identity

Chemical name
Cyclohexyltriethoxysilane

CAS number
18151-84-3

Structure
c-$C_6H_{11}Si(OC_2H_5)_3$

Molecular formula
$C_{12}H_{26}O_3Si$

Molecular weight
246.42 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 5090-L is cyclohexyltriethoxysilane, a condensation precursor containing one saturated cyclohexyl substituent and three hydrolyzable ethoxy groups. It is used in defined hybrid-network development and as a candidate for treating suitable inorganic surfaces.

Hydrolysis generates silanols and ethanol. Condensation can incorporate cyclohexyl-bearing units into silica or siloxane structures, or react with accessible hydroxyl groups on a prepared surface. Water, catalyst, reaction time and drying affect network formation and residual ethoxy content. The saturated organic group provides no epoxy-curing, radical-polymerization or hydrosilylation function.

Features and benefits

- Saturated cyclohexyl group attached directly to silicon
- Three ethoxy groups permit condensation branching
- Precursor for co-condensed hybrid silica systems
- Candidate for defined mineral-surface treatment
- Releases ethanol during hydrolysis

Specification

Property	Unit	Value	Test method
Appearance		**Clear, colorless to straw liquid**	Visual
Purity (GC)	%	**min. 97.0**	Gas chromatography

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

Typical properties

Density, 25 °C	approx. 0.930 g/mL
Flash point, closed cup	approx. 100 °C

For guidance only; not part of the specification.

Applications

Hybrid silica and nanocapsules
Precursor in controlled co-condensation with compatible silica-forming partners. Evaluate particle texture, incorporation of organic groups and wetting.

Filled adhesives and plastic compounds
Evaluate treated filler compatibility, dispersion and resulting mechanics in the receiving resin. Establish treatment separately from compounding and dilution.

Glass, ceramic and metal hybrid films
Component in defined network-forming formulations. Assess film thickness, defects, adhesion, optical behavior and resistance to the intended exposure.

Quartz, silica and oxide-coated pigments
Candidate for treating accessible hydroxylated surfaces before dispersion. Check uniformity, residual ethanol, unreacted silane and powder handling.

Concrete and masonry treatments
Ingredient for formulated treatments of hardened mineral substrates. Measure uptake, penetration, appearance, vapor transmission and durability.

Guidelines for use

Co-condensation	Combine with compatible precursors under controlled water addition and mixing. Follow phase behavior, residual ethoxy groups, viscosity and gel growth before deposition or further processing.
Filler pretreatment	Distribute the silane uniformly over suitable mineral surfaces. Establish moisture and catalyst conditions, remove ethanol and water, and assess treatment before incorporation into resin.
Surface-film trials	Apply a compatible formulation to a prepared substrate and establish the required drying and cure. Determine concentration and application method in trials on the actual surface.

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

Handling and safety

- Combustible liquid. Keep away from heat and ignition sources and ventilate transfer, reaction and drying operations.
- Avoid ingestion, skin or eye contact and breathing mist. Use suitable gloves, splash goggles and protective clothing.
- Hydrolysis releases ethanol. Keep bulk material dry and control alcohol-vapor exposure during treatment and curing.
- Read the Safety Data Sheet before use.

Storage and shelf life

Store in tightly sealed original containers in a cool, dry, well-ventilated place protected from light and moisture. Keep away from heat and ignition sources. Shelf life is 12 months in the original unopened packaging.

Packaging

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

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