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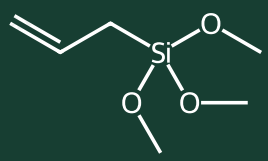
Technical data sheet
TDS-LEGRA-3031-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

3031-L

Allyltrimethoxysilane

Allyl-functional intermediate for designed addition and surface reactions



Chemical identity

Chemical name
Allyltrimethoxysilane

CAS number
2551-83-9

EC number
219-855-8

Molecular formula
$C_6H_{14}O_3Si$

Molecular weight
162.26 g/mol

Hydrolysis by-product
Methanol

Product description

LANDUSIL LEGRA 3031-L is allyltrimethoxysilane, an intermediate carrying an allyl group and three hydrolyzable methoxy groups. A methylene group separates its carbon-carbon double bond from silicon. It is used in designed synthesis, polymer modification and reactive surface treatments.

The allyl group can react with a suitable Si-H partner or participate in a defined thiol-ene or activated allylation route. Separately, methoxy hydrolysis releases methanol and forms silanols for subsequent condensation. Select the route to retain or consume the required functionality, then verify the resulting product structure and residual groups.

Features and benefits

- Allyl group separated from silicon by a methylene group
- Three methoxy groups for hydrolysis and condensation
- Releases methanol during hydrolysis
- Reactive intermediate for suitable Si-H or thiol partners
- Reagent for selected activated allylation reactions

Specification

Property	Unit	Value	Test method
Appearance		**Colorless to light yellow, clear liquid**	Visual
Purity (GC)	%	**min. 97.0**	Gas chromatography
Refractive index, n_D^{20}	–	**1.4030 – 1.4060**	Refractometry

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

Typical properties

Boiling range, pressure not stated	approx. 146 – 148 °C
Density, 25 °C	approx. 0.963 g/cm³
Flash point, method not stated	approx. 31 °C

For guidance only; not part of the specification.

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Applications

Siloxane functionalization
Reaction with a genuine Si-H-containing partner under a suitable catalyst. Establish conversion, selectivity and retained methoxy functionality.

Thiol-ene formulations
Allyl component in a defined thiol-containing system with suitable initiation. Check double-bond conversion, residual thiol and network formation.

Organic synthesis
Reagent for selected carbonyl or imine allylation under a defined activation system. Identify the isolated product before assigning later functions.

Addition-cure silicone adhesion development
Reactive component for evaluation with the actual silicone, substrate and catalyst package. Measure cure inhibition and conditioned bond strength.

Surface and hybrid precursors
Controlled hydrolysis and condensation on appropriate hydroxylated surfaces, followed by a compatible reaction of the retained organic group.

Guidelines for use

Reaction with Si-H materials	Set stoichiometry from the actual partner functionality and target structure. Select the catalyst and addition sequence, control the exotherm, and measure conversion and side products.
Thiol-ene development	Determine allyl-to-thiol balance for the complete recipe and initiation route. Measure residual groups, cure uniformity and methanol generation during later surface reactions.
Surface treatment	Optimize loading for surface area, moisture and the subsequent resin reaction. Follow treatment-bath aging, drying, retained allyl groups and removal of volatile hydrolysis products.

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. Exclude ignition sources, ground and bond transfer equipment, and use suitable ventilation.
- Causes skin and serious eye irritation and may irritate the respiratory tract. Avoid vapor, mist and contact; wear suitable gloves, clothing and eye protection.
- Hydrolysis releases toxic methanol. Control exposure during mixing, reaction and drying, and prevent uncontrolled moisture or catalyst contamination.
- Keep away from heat and incompatible reactants. Establish reaction controls and read the Safety Data Sheet before use.

Storage and shelf life

Store in original, tightly closed containers in a cool, dry, well-ventilated area, away from moisture, sunlight, heat and ignition sources. Shelf life is 6 months from shipment in unopened containers. Use dry transfer equipment and promptly reseal after sampling or dispensing.

Packaging

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

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