LANDU

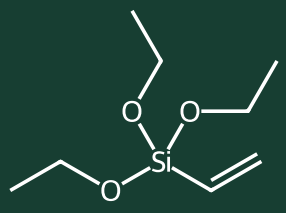
Technical data sheet
TDS-LEGRA-3010-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

3010-L

Vinyltriethoxysilane

Vinyl-functional ethoxysilane for polymer grafting and inorganic interfaces



Chemical identity

Chemical name
Vinyltriethoxysilane

CAS number
78-08-0

EC number
201-081-7

Molecular formula
$C_8H_{18}O_3Si$

Molecular weight
190.31 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 3010-L is vinyltriethoxysilane, a bifunctional organosilane with a vinyl group bonded directly to silicon and three hydrolyzable ethoxy groups. It is used in designed polymer functionalization, filler treatment and compatible sealant formulations.

The vinyl group can participate in selected radical grafting, copolymerization or addition reactions with an appropriate partner. Ethoxy hydrolysis separately releases ethanol and forms silanols for condensation on hydroxyl-bearing surfaces or between silane-functional polymer chains. Polymer incorporation and subsequent moisture cure require distinct process controls.

Features and benefits

- One silicon-bound vinyl group for selected organic reactions
- Three ethoxy groups for hydrolysis and condensation
- Releases ethanol during hydrolysis
- Precursor for moisture-crosslinkable polyethylene
- Compatible filler-treatment and latex-synthesis routes

Specification

Property	Unit	Value	Test method
Appearance		**Colorless, clear liquid**	Visual
Purity (GC)	%	**min. 98.0**	Gas chromatography
Color	Pt-Co	**max. 25**	ASTM D1209

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

Typical properties

Boiling point, 1013 hPa	approx. 161 °C
Flash point, cup method not specified	approx. 34 °C
Density, 25 °C	approx. 0.903 g/mL
Dynamic viscosity, 20 °C	approx. 0.7 mPa·s

For guidance only; not part of the specification.

Applications

Silane-crosslinked polyethylene
Grafting precursor for cable or pipe compound development followed by a separately controlled moisture-curing stage.

Polymer dispersions
Functional comonomer for deliberately designed latex synthesis; verify incorporation, residual monomer and dispersion stability.

Functional siloxane synthesis
Starting material for selected reactions with hydroxyl-functional siloxanes or an appropriate vinyl-addition partner.

Mineral-filled polymers and elastomers
Treatment of suitable mineral fillers for matrices with an available vinyl reaction route, including selected peroxide-cured compounds.

Sealant water management
Reactive ethoxy component in compatible moisture-sensitive formulations; assess ethanol formation, viscosity and subsequent condensation.

Guidelines for use

Polymer functionalization	Establish silane and initiator levels for the actual polymer, extrusion temperature and residence time. Check residual monomer and premature gel before moisture curing.
Filler pretreatment	Apply a compatible treatment to an agitated filler or from a controlled treatment bath, then dry. Determine demand from surface area, existing coatings and matrix chemistry.
Aqueous-treatment preparation	Published hydrolysis guidance adjusts water to pH 5.0 – 5.5 with acetic acid before silane addition. Verify bath life and deposition for the actual treatment.

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 flames; ground and bond transfer equipment and use suitable ventilation.
- Can irritate skin and eyes. Wear chemical-resistant gloves and splash protection, and avoid breathing vapor or spray mist.
- Exclude moisture during transfer and storage. Hydrolysis releases ethanol; control alcohol vapors during treatment and drying.
- Keep away from uncontrolled peroxide, radical-initiator, acid or base contamination. Read the Safety Data Sheet before use.

Storage and shelf life

Store in original, tightly closed containers in a cool, dry, well-ventilated area suitable for flammable liquids, away from moisture, sunlight and ignition sources. Shelf life is 12 months in unopened containers. Keep sampling and transfer equipment dry and reseal promptly after use.

Packaging

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

The information in this data sheet reflects our current knowledge and is given in good faith. It is not a guarantee of properties or of suitability for a particular use, and it does not release users from testing the product for their own application and process. Users are responsible for complying with applicable laws, regulations and third-party rights. Only the values under Specification are binding, as confirmed on the Certificate of Analysis. This edition supersedes all previous editions. For safety information, see the current Safety Data Sheet. © 2026 LANDUSIL. All rights reserved. LANDUSIL and its product series names are trademarks of LANDUSIL. No part of this document may be reproduced, modified or redistributed without prior written permission.