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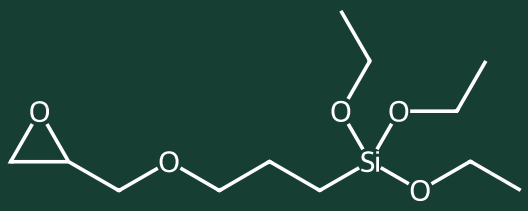
Technical data sheet
TDS-LEGRA-2010-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

2010-L

3-Glycidoxypropyltriethoxysilane

Glycidyl epoxy silane for glass, mineral and compatible resin interfaces



Chemical identity

Chemical name
3-Glycidoxypropyltriethoxysilane

CAS number
2602-34-8

EC number
220-011-6

Molecular formula
$C_{12}H_{26}O_5Si$

Molecular weight
278.42 g/mol

Hydrolysis by-product
Ethanol

Product description

LANDUSIL LEGRA 2010-L is 3-glycidoxypropyltriethoxysilane, a bifunctional coupling agent containing one glycidyl epoxide and three hydrolyzable ethoxy groups. It is used in primers, surface treatments and compatible resin formulations.

The ethoxy groups hydrolyze to silanols and release ethanol. Silanols can condense with hydroxyl-bearing glass, mineral and metal-oxide surfaces. The epoxide provides a separate reaction site for suitable amines or other epoxy-reactive partners. Control hydrolysis, drying and resin cure separately to develop an interface that connects the inorganic surface to the organic matrix.

Features and benefits

- One glycidyl epoxide for compatible ring-opening reactions
- Three ethoxy groups for hydrolysis and condensation
- Releases ethanol during hydrolysis
- Suitable for primers and mineral surface treatment
- Resin addition and glass-fiber sizing routes

Specification

Property	Unit	Value	Test method
Appearance		**Colorless, clear liquid**	Visual
Purity (GC)	%	**min. 97.0**	Gas chromatography
Refractive index, n_D^{25}	–	**1.4100 – 1.4300**	Refractometry

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

Typical properties

Density, 20 °C	approx. 1.006 g/cm³
Boiling point, 3 mmHg	approx. 124 °C
Flash point, cup method not specified	approx. 110 °C
Dynamic viscosity, 20 °C	approx. 3.35 mPa·s

For guidance only; not part of the specification.

Applications

Adhesives and sealants
Coupling additive in compatible formulations. Evaluate cure balance, working life and adhesion after moisture exposure.

Glass-fiber sizing
Ingredient in sizing and fabric finishes matched to the film former, drying cycle and composite resin cure.

Hybrid materials
Precursor for controlled hydrolysis and epoxy reactions. Cationic epoxy curing requires a suitable initiator and conversion testing.

Coatings and primers
Surface treatment for prepared glass, ceramics and oxide-bearing metals before applying a compatible coating or adhesive.

Mineral and pigment treatment
Pretreatment or integral addition for hydroxyl-bearing fillers; evaluate dispersion, residual volatiles and cure response.

Guidelines for use

Integral addition	A published starting range is 1 – 10 wt.% in the polymer matrix. Screen the amount against formulation viscosity, cure conversion and storage stability.
Primer application	Use a 1 – 2 % solution in a compatible solvent. Apply a thin film to the cleaned substrate, dry, and qualify adhesion with the actual coating or adhesive.
Surface-treatment development	Select filler or glass-fiber treatment demand by trials. Control bath age, deposition and drying; no universal filler dosage is specified.

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

Handling and safety

- Avoid skin and eye contact; the liquid can cause irritation. Wear chemical-resistant gloves and splash eye protection.
- Use effective ventilation and avoid breathing vapor or mist, especially during spraying and heated drying.
- Exclude moisture during transfer. Hydrolysis releases ethanol; manage solvent vapors and keep away from ignition sources.
- Keep away from uncontrolled acid, base or amine contamination that can initiate reaction. Read the Safety Data Sheet before use.

Storage and shelf life

Store in tightly closed original containers in a cool, dry, well-ventilated place, away from moisture, sunlight and incompatible chemicals. Shelf life is 12 months in unopened containers. Protect opened material with dry inert gas and reseal promptly.

Packaging

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

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