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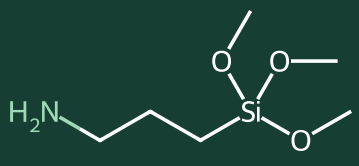
Technical data sheet
TDS-LEGRA-1011-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

1011-L

3-Aminopropyltrimethoxysilane

Primary amino silane for glass, mineral fillers and reactive resin interfaces



Chemical identity

Chemical name
3-Aminopropyltrimethoxysilane

Abbreviation
APTMS

CAS number
13822-56-5

EC number
237-511-5

Structure
$H_2N(CH_2)_3Si(OCH_3)_3$

Molecular formula
$C_6H_{17}NO_3Si$

Molecular weight
179.29 g/mol

Hydrolysis by-product
Methanol

Product description

LANDUSIL LEGRA 1011-L is 3-aminopropyltrimethoxysilane (APTMS), a bifunctional organosilane with one terminal primary amine and three hydrolyzable methoxy groups.

The methoxy groups hydrolyze to silanols, releasing methanol. Silanols can condense with suitable hydroxylated surfaces and with one another. The amine can react with epoxy or isocyanate groups, providing a route to incorporation into compatible resins. Moisture, addition sequence and reactive equivalents affect treatment uniformity, working time and the resulting interface.

Features and benefits

- One primary amine for reaction with compatible resins
- Three methoxy groups provide hydrolysis and condensation sites
- Forms an amino-functional interface on suitable mineral surfaces
- Use as a formulation additive, primer or filler treatment
- Account for amine reactivity in epoxy and polyurethane systems

Specification

Property	Unit	Value	Test method
Appearance		**Colorless to light yellow, clear liquid**	Visual
Purity (GC)	%	**min. 97.0**	Gas chromatography
Color	Pt-Co	**max. 30**	Platinum-cobalt color comparison
Refractive index, n_D^{20}	–	**1.4205 – 1.4255**	Refractometry, 20 °C

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

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Typical properties

Boiling point, 15 mmHg	approx. 92 °C
Flash point, closed cup	approx. 79 °C
Kinematic viscosity, 25 °C	approx. 1.68 mm²/s
Behavior in water	Hydrolyzes and releases methanol

For guidance only; not part of the specification.

Applications

Epoxy and polyurethane adhesives
Coupling additive for compatible two-component epoxies and for evaluation in the polyol component of two-component polyurethane systems.

Glass and metal primers
Formulated surface treatments before bonding or coating; control surface preparation and the drying interval.

Mineral filler treatment
Treatment of silica, quartz and other suitable hydroxylated fillers before compounding.

Silane-modified polyurethane sealants
Adhesion-promoting ingredient; evaluate the actual polymer, catalyst, filler and substrate combination.

Glass-fiber sizing and fabric finishing
Coupling component for compatible sizing and finishing packages matched to the final resin matrix.

Phenolic and furan foundry binders
Coupling additive for selected cold-curing sand binders; assess interaction with acid catalysts.

Guidelines for use

Surface primer	Use a 0.5 – 10 % by weight solution in a compatible organic solvent. Apply a thin treatment and establish the drying and bonding interval in trials.
Integral addition	Add to a compatible resin component under dry mixing conditions. In epoxy and polyurethane systems, account for amine equivalents and verify working time and storage stability.
Filler pretreatment	Apply neat or from a compatible solution to the agitated filler. Control filler moisture, distribution and drying before compounding.

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

Handling and safety

- Causes skin irritation and serious eye damage. Wear suitable gloves, protective clothing and eye/face protection.
- Combustible liquid. Keep away from heat, sparks and open flames.
- Hydrolysis releases toxic methanol. Provide ventilation and avoid breathing vapor or mist; control water addition.
- The primary amine can react with ketone or ester solvents. Check solvent and resin compatibility before mixing.
- Read the Safety Data Sheet before use.

Storage and shelf life

Store in original, tightly closed containers in a cool, dry, well-ventilated place, protected from moisture and ignition sources. Shelf life is 12 months in unopened containers under these conditions. Use promptly after opening.

Packaging

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

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