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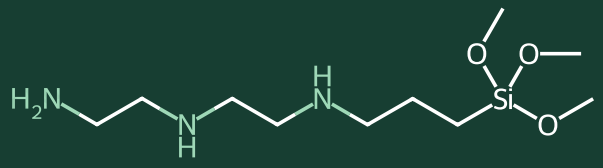
Technical data sheet
TDS-LEGRA-1091-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

1091-L

Diethylenetriaminopropyltrimethoxysilane

Triamino silane for controlled resin reactions and surface functionalization



Chemical identity

Chemical name
Diethylenetriaminopropyltrimethoxysilane

CAS number
35141-30-1

EC number
252-390-9

Structure
$H_2N(CH_2)_2NH(CH_2)_2NH(CH_2)_3Si(OCH_3)_3$

Molecular formula
$C_{10}H_{27}N_3O_3Si$

Molecular weight
265.43 g/mol

Hydrolysis by-product
Methanol

Product description

LANDUSIL LEGRA 1091-L is diethylenetriaminopropyltrimethoxysilane. It contains one terminal primary amine, two secondary amines and one silicon center bearing three methoxy groups. It is a reactive ingredient for resin and surface studies.

The amines can react with suitable epoxy or NCO partners, while methoxy hydrolysis releases methanol and forms silanols for separate condensation. Multiple amine sites can alter cure balance, branching and gel formation. Establish reaction equivalents from the material; nitrogen count, initial active-hydrogen count and measured amine value are different quantities. Control organic reactions and silicon condensation independently.

Features and benefits

- One primary and two secondary amine groups
- Three methoxy groups provide silanol-forming sites
- Hydrolysis releases methanol
- Reactive ingredient for epoxy and primer systems
- Screen cure balance, working time and network growth

Specification

Property	Unit	Value	Test method
Appearance		**Clear, colorless to yellow liquid**	Visual
Purity (GC)	%	**min. 90.0**	Gas chromatography
Refractive index, n_D^{20}	–	**1.4570 – 1.4650**	Refractometry, 20 °C

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

Typical properties

Boiling point, 2 mmHg	approx. 114 – 118 °C
Density, 25 °C	approx. 1.030 g/cm³
Dynamic viscosity, 20 °C	approx. 23 mPa·s
Behavior in water	Hydrolyzes and releases methanol

For guidance only; not part of the specification.

Applications

Epoxy adhesives, coatings and primers
Evaluate with a hardener package that accommodates the added amines, using the substrate and controlled cure.

Resin-bonded minerals and foundry systems
Candidate for selected sand and abrasive binders; qualify acid demand, workable time, cure and retained properties separately.

Amine-functional silica
Reagent for controlled surface functionalization; distinguish retained surface material from free silane and evaluate pore accessibility and leaching.

PVC plastisol-to-metal interfaces
Screen within the complete resin, plasticizer and stabilizer package; assess fusion, color, viscosity and conditioned adhesion.

Mineral-filled polymers and glass fibers
Particle treatment or sizing ingredient matched to the surface and matrix; compare dispersion and conditioned behavior.

Guidelines for use

Reactive resin addition	Set addition side and amine balance using the actual epoxy or NCO partner. Monitor exotherm, viscosity, working time and conversion; multiple amines can connect reactive molecules and promote gel formation.
Primer or filler treatment	Prepare a compatible dilute treatment. Establish surface preparation, moisture balance, concentration, drying and bath life. Compare treated and untreated assemblies after the intended conditioning.
Plastisol and silica studies	For plastisols, qualify mixing, storage viscosity and the complete thermal cycle. For silica, establish reagent loading, washing and drying before measuring accessible nitrogen and retained pore structure.

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

Handling and safety

- Harmful if inhaled. Provide effective ventilation and avoid breathing vapor or mist.
- Avoid skin and eye contact; exposure may cause irritation, an allergic skin reaction and serious eye damage. Wear suitable gloves, protective clothing and eye/face protection.
- Hydrolysis releases toxic methanol. Control moisture and residual volatiles; keep away from heat and ignition sources.
- Prevent release to drains and surface water; aquatic effects may persist after exposure.
- 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, heat and ignition sources. Shelf life is 12 months in unopened containers under these conditions. Use promptly after opening and reseal after dispensing.

Packaging

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

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