LANDU

Technical data sheet
TDS-LEGRA-1031-L-EN
Revision 1.0, November 2026

LANDUSIL LEGRA

1031-L

3-Aminopropylmethyldimethoxysilane

Primary amino dimethoxy silane for surface treatment and silicone synthesis



Chemical identity

Chemical name
3-Aminopropylmethyldimethoxysilane

CAS number
3663-44-3

EC number
222-919-8

Structure
$H_2N(CH_2)_3Si(CH_3)(OCH_3)_2$

Molecular formula
$C_6H_{17}NO_2Si$

Molecular weight
163.29 g/mol

Hydrolysis by-product
Methanol

Product description

LANDUSIL LEGRA 1031-L is 3-aminopropylmethyldimethoxysilane. Its primary amino group is connected to silicon through a propyl chain; silicon also carries a methyl group and two methoxy groups.

Water converts the methoxy groups to silanol-containing species and releases methanol. Subsequent condensation can connect these species to suitable inorganic surfaces or siloxane partners. The amine can react with compatible organic binders, including epoxy or isocyanate functionality. Surface pretreatment, direct addition and polymer synthesis therefore require separate control of moisture, reaction progress and process timing.

Features and benefits

- One primary amine for reaction with compatible organic binders
- Two methoxy groups and one methyl group on silicon
- Hydrolysis releases methanol
- Building block for amino-functional silicone materials
- Use as a primer ingredient, surface treatment or reactive additive

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^{25}	–	**1.4185 – 1.4385**	Refractometry, 25 °C

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

Typical properties

Boiling point, 13 mmHg	approx. 84 °C
Relative density, 20/20 °C	approx. 0.95
Behavior in water	Hydrolyzes; hydrolysates can self-condense

For guidance only; not part of the specification.

Applications

Reactive adhesives
Amino-functional ingredient for selected epoxy and polyurethane systems; assess the addition side, cure and storage behavior.

Fillers, pigments and coatings
Amino-functional treatment of suitable inorganic surfaces or additive in compatible coating formulations.

Silicone and textile-auxiliary synthesis
Starting material for controlled amino-functional silicone development; characterize the finished polymer before formulating a textile auxiliary.

Glass, ceramic and metal primers
Separate treatments for prepared substrates; establish wetting, drying and the interval before adhesive application.

Glass-fiber finishing
Coupling component in compatible sizing or fabric finishes, assessed with the actual film former and final matrix.

Resin-bonded sand and abrasives
Interface modifier for selected compatible binders; assess catalyst interactions, working time and bonded-article properties.

Guidelines for use

Surface treatment	Apply neat or from a compatible dilute treatment to the prepared surface or agitated filler. Establish concentration, water balance, usable bath time and drying in trials.
Resin addition	Introduce into a compatible component during mixing. Account for primary-amine reactions; check storage viscosity, working time, cure and conditioned adhesion.
Silicone synthesis	Define siloxane partners, end groups, target amino functionality and reaction endpoint. Measure conversion, residual alkoxy groups and low molecular weight species.

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

Handling and safety

- Corrosive: causes severe skin burns and 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, avoid breathing vapor or mist and control water addition.
- Check compatibility with acids, reactive resins, ketone or ester solvents and the selected silicone catalyst 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 away from moisture and ignition sources. Shelf life is 12 months in unopened containers under these conditions. Use promptly after opening and protect against atmospheric moisture.

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.