

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Commercial product name: LIQUASIL LAPSIL SEALANT

This substance/ mixture contains nanoforms

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of substance / preparation:
Industrial. Commercial.
Sealants

1.3 Details of the supplier of the safety data sheet

Manufacturer / Distributor: Liquasil Ltd

Address / Telephone: Telephone: Unit 8 Radway Industrial Estate, Radway Road, Solihull, B90 4NR,
United Kingdom
+44 (0)121 709 5253

Information about the Safety Data Sheet:

1.4 Emergency telephone number +44 (0)121 709 5352 (Not 24 Hours)

Emergency Information:

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008:

Not a hazardous substance or mixture.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008:

No labeling according to GHS required.

Code	Additional Labelling
EUH210	Safety data sheet available on request.
EUH208	Contains 3-aminopropyltriethoxysilane. May produce an allergic reaction.

2.3 Other hazards

The product hydrolyses under formation of ethanol (CAS-Nr. 64-17-5). Ethanol is classified concerning both physical and health hazards. The hydrolysis rate and consequently the relevance for the hazard profile of the product is strongly dependent on the specific conditions.

Endocrine disrupting properties - human health: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties - environment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

3.2.1 Chemical characteristics

Polydimethylsiloxane and filler and auxiliary products and alkoxysilane cross-linker

3.2.2 Hazardous ingredients

Distillates, petroleum, hydrotreated middle		>=3 – <5 %
CAS-No.: 64742-46-7	EC-No.: 265-148-2	Index-No.: 649-221-00-X
INHA	[1]	REACH No.: 01-2119552497-29
Classification according to Regulation (EC) No. 1272/2008*		Asp. Tox. 1 / H304
3-Aminopropyl(methyl) silsesquioxanes, ethoxy-terminated		>=1 – <3 %
CAS-No.: 128446-60-6		
INHA	[1]	
Classification according to Regulation (EC) No. 1272/2008*		Flam. Liq. 3 / H226; Eye Dam. 1 / H318; Skin Irrit. 2 / H315
3-Aminopropyltriethoxysilane		>=0,5 – <1 %
CAS-No.: 919-30-2	EC-No.: 213-048-4	Index-No.: 612-108-00-0
INHA	[1]	REACH No.: 01-2119480479-24
Classification according to Regulation (EC) No. 1272/2008*		Skin Corr. 1B / H314; Acute Tox. 4, oral / H302; Skin Sens. 1B / H317; Eye Dam. 1 / H318

Type: INHA: ingredient, VERU: impurity

REACH registered substances may be included as impurities. These do not necessarily require identified uses and exposure scenarios in the safety data sheet.

[1] = Hazardous or environmentally harmful substance; [2] = substance with a Community workplace exposure limit; [3] = PBT substance; [4] = vPvB substance; [5] = Endocrine disrupting properties

*Classification codes are explained in section 16.

Hydrocarbon mixtures were classified in accordance with the applicable notes in Annex VI of Regulation (EC) No. 1272/2008.

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57) in amounts above ≥ 0.1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of accident or if you feel unwell seek medical advice (show label or SDS where possible).

After contact with the eyes:

Rinse immediately with plenty of water. Seek medical advice in case of continuous irritation.

After contact with the skin:

Wipe off excess material with cloth or paper. Wash with plenty of water or water and soap. In the event of a visible skin change or other complaints, seek medical advice (show label or SDS where possible).

After inhalation:

Material cannot be inhaled under normal conditions.

After swallowing:

Give several small portions of water to drink. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Any relevant information can be found in other parts of this section.

4.3 Indication of any immediate medical attention and special treatment needed

Further toxicology information in section 11 must be observed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

alcohol-resistant foam , carbon dioxide , water mist , sprinkler system , sand , extinguishing powder .

Extinguishing media which must not be used for safety reasons:

water jet .

5.2 Special hazards arising from the substance or mixture

Risk of hazardous gasses or fumes in the event of fire. Exposure to combustion products may be a health hazard! Hazardous combustion products: toxic and very toxic fumes .

5.3 Advice for firefighters

Special protective equipment for fire fighting:

Use respiratory protection independent of recirculated air. Keep unprotected persons away.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Secure the area. Wear personal protection equipment (see section 8). Keep unprotected persons away. If material is released indicate risk of slipping. Do not walk through spilled material.

6.2 Environmental precautions

Prevent material from entering surface waters, drains or sewers and soil. Close leak if possible without risk. Retain contaminated water/extinguishing water. Dispose of in prescribed marked containers. Inform authorities if substance leaks into surface waters, sewerage or ground.

6.3 Methods and material for containment and cleaning up

Scoop up large quantities after dusting surfaces with sand or Fuller's earth to prevent sticking. Sweep or scrape up the spilled material and place in an appropriate chemical waste container. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner. Apply sand or other inert granular material to improve traction.

Further information:

Exhaust vapours. Eliminate all sources of ignition. Consider explosion protection. Observe notes under section 7.

6.4 Reference to other sections

Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling:

Ensure adequate ventilation. Must be syphoned off in situ. Keep away from incompatible substances in accordance with section 10. Observe information in section 8.

Precautions against fire and explosion:

Product may release ethanol. Flammable vapors may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

7.2 Conditions for safe storage, including any incompatibilities

Conditions for storage rooms and vessels:

Observe local/state/federal regulations.

Advice for storage of incompatible materials:

Observe local/state/federal regulations.

Further information for storage:

Store in a dry and cool place. Protect against moisture. Store container in a well ventilated place.

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Maximum airborne concentrations at the workplace:

Substance	Type	mg/m ³	ppm	Dust fract.	Fibre/m ³
Ethanol	OEL	1920,0	1000,0		

Derived No-Effect Level (DNEL):

Distillates, petroleum, hydrotreated middle

Area of use:	Value:
General	No quantitative data are available.

Predicted No Effect Concentration (PNEC):

Distillates, petroleum, hydrotreated middle

Area of use:	Value:
General	A regular PNEC could not be derived.

8.2 Exposure controls

8.2.1 Exposure in the work place limited and controlled

General protection and hygiene measures:

Observe standard industrial hygiene practices for the handling of chemical substances. Do not eat, drink or smoke when handling.

Further information for system design and engineering measures

Observe information in section 7. Observe national regulatory requirements.

Personal protection equipment:

Respiratory protection

If inhalative exposure above the occupational exposure limit cannot be excluded, adequate respiratory protection equipment must be used. Suitable respiratory equipment: Respirator with a full face mask, according to acknowledged standards such as EN 136. Recommended Filter type: Gas filter type ABEK (certain inorganic, organic and acidic gases and vapors; ammonia/amines), according to acknowledged standards such as EN 14387

Observe the equipment manufacturer's information and wear time limits for respirators.

Eye protection

Recommendation: protective goggles .

Hand protection

Use of protective gloves is recommended when handling the material, according to recognized standards such as EN374.

Recommended glove types: Protective gloves made of nitrile rubber
thickness of the material: > 0,1 mm
Breakthrough time: > 480 min

Recommended glove types: Protective gloves made of butyl rubber
thickness of the material: > 0,3 mm

Breakthrough time: > 480 min

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Note that, due to the numerous external influences (such as temperature), a chemically resistant protective glove in daily use may have a service life that is considerably shorter than the measured break through time.

8.2.2 Exposure to the environment limited and controlled

Prevent material from entering surface waters, drains or sewers and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property:	Value:	Method:
Physical state	liquid	
Form.....	paste	
Colour	colourless	
Odour	alcoholically	
Odour Threshold	no data available	
Melting point.....	not applicable	
Boiling point/boiling range	not applicable	
Lower explosion limit.....	not applicable	
Upper explosion limit	no data available	
Flash point.....	65 °C	(ISO 3679)
Ignition temperature	> 400 °C	(DIN 51794)
Thermal decomposition	> 300 °C	(Lit.)
pH	Not applicable. Insoluble in water.	
Viscosity, kinematic.....	no data available	
Viscosity, dynamic.....	> 1000000 mPa.s at 23 °C	(Brookfield)
Water solubility	insoluble	
Partition coefficient: n-octanol/water	not applicable	
Vapour pressure.....	not applicable	
Density	1,02 g/cm ³ (23 °C; 1013 hPa)	(ISO 1183-1 A)
Relative vapour density	no data available	
Particle Size Distribution	Not applicable.	

9.2 Other information

No data available.

Property:	Value:	Method:
Evaporation rate.....	not applicable	
Molecular weight	not applicable	

SECTION 10: Stability and reactivity

10.1 – 10.3 Reactivity; Chemical stability; Possibility of hazardous reactions

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

Relevant information can possibly be found in other parts of this section.

10.4 Conditions to avoid

Moisture, heat, open flames, and other sources of ignition.

10.5 Incompatible materials

Reacts with water, basic substances and acids. The reaction takes place with the formation of ethanol.

10.6 Hazardous decomposition products

Ethanol by hydrolysis. Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 General information

Data derived for the product as a whole are of higher priority than data for single ingredients.

11.1.2 Acute toxicity

Product details:

Exposure routes	Result/Effect
Oral	LD50 > 2000 mg/kg Species: Rat, Source: Expert judgement
dermal	LD50 > 2000 mg/kg Species: Rat, Source: Expert judgement

11.1.3 Skin corrosion/irritation

Assessment:

Based on the available data a clinically relevant skin irritation hazard is not expected. Temporary symptoms of an irritation cannot be excluded if the adhesive product is removed mechanically after contact.

Product details:

No skin irritation (Species: Rabbit, Source: Expert judgement)

11.1.4 Serious eye damage/eye irritation

Assessment:

Based on the available data a clinically relevant eye irritation hazard is not expected. Temporary symptoms of an irritation cannot be excluded if the adhesive product is removed mechanically after contact.

Product details:

No eye irritation (Species: Rabbit, Source: Expert judgement)
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11.1.5 Respiratory or skin sensitisation

Product details:

Exposure routes	Result
Skin contact	Does not cause skin sensitisation. (Species: Guinea pig, Test system: Buehler Test, Source: Expert judgement)
Inhalation	No data available.

11.1.6 Germ cell mutagenicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.7 Carcinogenicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.8 Reproductive toxicity

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.9 Specific target organ toxicity - single exposure

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.10 Specific target organ toxicity - repeated exposure

Assessment:

For this endpoint no toxicological test data is available for the whole product.

11.1.11 Aspiration hazard

Assessment:

Based on the physical-chemical properties of the product no aspiration hazard must be expected.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2 Further toxicological information

None known.

Data on substances:**Product of hydrolysis (Ethanol):**

Ethanol (64-17-5) is readily absorbed at all exposure routes. Ethanol may cause irritation of eyes and mucosa, trigger dysfunction of the central nervous system and cause nausea as well as dizziness. Chronic exposure to high amounts of ethanol may cause damage to liver and central nervous system.

aliphatic and naphthenic hydrocarbons:

According to literature aliphatic hydrocarbons are slightly irritating to the skin and mucuous membranes and have a skin drying and narcotic effect. If the lungs are directly affected (e.g. by aspiration), inflammation of the lungs may occur.

SECTION 12: Ecological information

12.1 Toxicity

Assessment:

Evaluation on basis of physical-chemical properties: No expected damaging effects to aquatic organisms.

12.2 Persistence and degradability

Assessment:

Polymer component: biologically not degradable. Elimination by adsorption to activated sludge.

Data on substances:**Product of hydrolysis (Ethanol):**

Ethanol is readily biodegradable.

12.3 Bioaccumulative potential

Assessment:

Polymer component: No adverse effects expected.

12.4 Mobility in soil

Assessment:

Polymer component: insoluble in water.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

none known

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Material

Recommendation:

Material that cannot be used, reprocessed or recycled should be disposed of in accordance with Federal, State, and local regulations at an approved facility. Depending on the regulations, waste treatment methods may include, e.g., landfill or incineration.

13.1.2 Uncleaned packaging

Recommendation:

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations. Uncleaned packaging should be treated with the same precautions as the material.

13.1.3 Waste Disposal Legislation Ref.No.(EC)

It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

SECTION 14: Transport information

14.1 – 14.4 UN number; UN proper shipping name; Transport hazard class(es); Packing group

Road ADR:

Valuation: Not regulated for transport

Railway RID:

Valuation: Not regulated for transport

Transport by sea IMDG-Code:

Valuation: Not regulated for transport

Air transport ICAO-TI/IATA-DGR:

Valuation: Not regulated for transport

14.5 Environmental hazards

Hazardous to the environment: no

14.6 Special precautions for user

Relevant information in other sections has to be considered.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Bulk transport in tankers is not intended.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National and local regulations must be observed.

For information on labelling please refer to section 2 of this document.

Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances (Seveso III):

Not applicable

Relevant regulations:

SI 2002/1689: CHIP Regulations 2002

SI 2002/2677: COSHH Regulations 2002

SI 1999/3242: Management of Health & Safety at Work Regulations 1999

Health & Safety at Work Act 1974

SI 1993/1643: Environmental Protection Act 1993 & Subsidiary Regulations.

Other national and local measures relating to the workplace, pollution control, environmental protection and waste control.

Other specifications, restrictions and prohibitions:

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors - ANNEX I. RESTRICTED EXPLOSIVES PRECURSORS: Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors - ANNEX II. REPORTABLE EXPLOSIVES PRECURSORS: Not applicable

Details of international registration status

Relevant information about individual substance inventories, where available, is given below.

Japan	ENCS (Handbook of Existing and New Chemical Substances): This product is listed in, or complies with, the substance inventory.
New Zealand	NZIoC (New Zealand Inventory of Chemicals): This product is not listed or in compliance with the substance inventory.
Australia	AIIC (Australian Inventory of Industrial Chemicals): This product is listed in, or complies with, the substance inventory.
Philippines.....	PICCS (Philippine Inventory of Chemicals and Chemical Substances): This product is not listed or in compliance with the substance inventory.
United States of America (USA).....	TSCA (Toxic Substance Control Act Chemical Substance Inventory): All components of this product are listed as active or are in compliance with the substance inventory.
Taiwan	TCSI (Taiwan Chemical Substance Inventory): This product is listed in, or complies with, the substance inventory. General note: The Taiwanese chemicals regulation requires a phase 1 registration for TCSI-listed or TCSI-compliant substances if imports to Taiwan or manufacturing in Taiwan exceed the trigger quantity of 100 kg/a (for mixtures to be calculated per each ingredient). It is the duty of the importing/manufacturing legal entity to take care of this obligation.
European Economic Area (EEA).....	REACH (Regulation (EC) No 1907/2006): General note: the registration obligations for substances imported into the EEA or manufactured within the EEA by the supplier mentioned in section 1 are fulfilled by the said supplier. The registration obligations for substances imported into the EEA by customers or other downstream users must be fulfilled by the latter.
South Korea (Republic of Korea)	AREC (Act on Registration and Evaluation of Chemicals; "K-REACH"): Please approach your regular contact for more detailed information.

15.2 Chemical safety assessment

Due to the results of the chemical safety assessment, exposure scenarios and identified uses are not of relevance for this safety data sheet.

SECTION 16: Other information

16.1 Material

The details in this document are based on the state of our knowledge at the time of revision. They do not constitute an assurance of the described product properties in terms of statutory warranty requirements.

16.2 Further information:

Commas appearing in numerical data denote a decimal point. Vertical lines in the left-hand margin indicate changes compared with the previous version. This version supersedes all previous versions.

Key or legend to abbreviations and acronyms used in the safety data sheet

ABEK - Multi-Range Filter A, B, E, K; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; APF - Assigned Protection Factor; CAS No. - Chemical Abstracts Service Registry Number; DFG - German Research Foundation; DIN - German institute for standardization; DOC - Dissolved Organic Carbon; d/w - days per week; EC / CE / EG - European Community; EC50 / CE50 - Median effective concentration; ECHA - European Chemicals Agency; ED - endocrine disruptor; EG-RL - test method according to Regulation 440/2008; EN - European Standard; ERC - Environmental Release Category; g/cm³ - gram per cubic centimeter; h - hour(s); H-Code - hazard statement code(s); hPa - Hectopascal; IATA Regs - International Air Transport Association (IATA) Dangerous Goods Regulations; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 / CI50 - half maximal inhibitory concentration; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IMDG Code - International Maritime Dangerous Goods Code; ISO - International Organization for Standardization; LC50 / CL50 - medium lethal concentration; LD50 / DL50 - medium lethal dose; LOAEC - Lowest Observed Adverse Effect Concentration; LOAEL - Lowest Observed Adverse Effect Level; MARPOL - International Convention for the Prevention of Marine Pollution from Ships; mg/g - milligrams per gram; mg/kg - milligrams per kilogram; mg/l - milligrams per liter; mg/m³ - milligrams per cubic meter; min - minutes; mJ - millijoule; mm - millimeter; mm²/s - square millimeter per second; mPa.s - Millipascal second(s); MSDS / SDB / SDS - safety data sheet; NO - Observed Adverse Effect Concentration; NOAEL - No Observed adverse effect level; NOEC - No Observed Effect Concentration; NOEL - No Observed Effect Level; OECD - Organization for Economic Cooperation and Development; PBT - persistent, bioaccumulative, toxic; PC - product category; P-Code - precautionary statement code(s); ppm - parts per million; PROC - process category; RCP - reciprocal calculation-based procedure; RID - convention concerning international carriage by rail; SU - sector of use; SVHC - substance of very high concern; Vol% - volume percent; UN No. - United Nations Dangerous Goods Number; vPvB - very Persistent, very Bioaccumulative

Explanation of the GHS classification code:

Asp. Tox. 1; H304	Aspiration hazard Category 1; May be fatal if swallowed and enters airways.
Flam. Liq. 3; H226	Flammable liquids Category 3; Flammable liquid and vapour.
Eye Dam. 1; H318	Serious eye damage/eye irritation Category 1; Causes serious eye damage.
Skin Irrit. 2; H315	Skin corrosion/irritation Category 2; Causes skin irritation.
Skin Corr. 1B; H314 ...	Skin corrosion/irritation Category 1B; Causes severe skin burns and eye damage.
Acute Tox. 4; H302	Acute toxicity Category 4; Harmful if swallowed.
Skin Sens. 1B; H317 ...	Skin sensitisation Category 1B; May cause an allergic skin reaction.
Eye Dam. 1; H318	Serious eye damage/eye irritation Category 1; Causes serious eye damage.

- End of Safety Data Sheet -