



# Safety Data Sheet according to (EC) No 1907/2006 as amended

Page 1 of 11

BERGQUIST LIQUI FORM TLF 10000

SDS No. : 711539  
V003.0

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

BERGQUIST LIQUI FORM TLF 10000

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

Intended use:

Thermal Interface Material 1K Silicone

### 1.3. Details of the supplier of the safety data sheet

Henkel Ireland

Operations and Research Limited

Tallaght Business Park, Whitestown

24 Dublin

Ireland

Phone: +353 (0353) 1 404 6444

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

### 1.4. Emergency telephone number

00353 14046280

National Poisons Information Centre: Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification (CLP):

Specific target organ toxicity - repeated exposure

Category 2

H373 May cause damage to organs through prolonged or repeated exposure.

**Chronic hazards to the aquatic environment**

Category 1

**H410 Very toxic to aquatic life with long lasting effects.**

### 2.2. Label elements

#### Label elements (CLP):

Hazard pictogram:



Contains

Aluminium nitride

**Signal word:** Warning

**Hazard statement:** H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement:** P273 Avoid release to the environment.  
**Prevention**

### 2.3. Other hazards

None if used properly.

Following substances are present in a concentration  $\geq$  the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration  $\geq$  the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

| Hazardous components<br>CAS-No.<br>EC Number<br>REACH-Reg No.           | Concentration | Classification   | Specific Conc. Limits, M-factors and ATEs | Add. Information |
|---|---------------|--|---|------------------|
| Aluminium nitride<br>24304-00-5<br>246-140-8<br>01-2120119762-58        | 50- 100 %     | Aquatic Chronic 1, H410<br>STOT RE 2, Inhalation, H373 | M chronic = 1                             |                  |
| Siloxanes and Silicones, di-Me,<br>vinyl group-terminated<br>68083-19-2 | 1- < 5 %      | Eye Irrit. 2, H319                                     |   |                  |

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation:

Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

**4.2. Most important symptoms and effects, both acute and delayed**

Prolonged or repeated contact may cause skin irritation.

Prolonged or repeated contact may cause eye irritation.

**4.3. Indication of any immediate medical attention and special treatment needed**

See section: Description of first aid measures

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media:**

water, carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**

High pressure waterjet

**5.2. Special hazards arising from the substance or mixture**

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) can be released.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional information:**

In case of fire, keep containers cool with water spray.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

**6.2. Environmental precautions**

Do not empty into drains / surface water / ground water.

**6.3. Methods and material for containment and cleaning up**

Dispose of contaminated material as waste according to Section 13.

Scrape up as much material as possible.

Sweep up spilled material. Avoid creating dust.

Store in a partly filled, closed container until disposal.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Avoid skin and eye contact.

See advice in section 8

**Hygiene measures:**

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

**7.2. Conditions for safe storage, including any incompatibilities**

Ensure good ventilation/extraction.

Keep container tightly sealed.

Refer to Technical Data Sheet

**7.3. Specific end use(s)**

Thermal Interface Material 1K Silicone

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for  
Ireland

| Ingredient [Regulated substance]                   | ppm | mg/m <sup>3</sup> | Value type                   | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|------------------------------|--|-----------------|
| Aluminium oxide<br>1344-28-1<br>[ALUMINIUM OXIDES] |     | 4                 | Time Weighted Average (TWA): |  | IR_OEL          |
| Aluminium oxide<br>1344-28-1<br>[ALUMINIUM OXIDES] |     | 10                | Time Weighted Average (TWA): |  | IR_OEL          |

**Occupational Exposure Limits**Valid for  
Great Britain

| Ingredient [Regulated substance]                                    | ppm | mg/m <sup>3</sup> | Value type                   | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|------------------------------|--|-----------------|
| Aluminium oxide<br>1344-28-1<br>[ALUMINIUM OXIDES, INHALABLE DUST]  |     | 10                | Time Weighted Average (TWA): |  | EH40 WEL        |
| Aluminium oxide<br>1344-28-1<br>[ALUMINIUM OXIDES, RESPIRABLE DUST] |     | 4                 | Time Weighted Average (TWA): |  | EH40 WEL        |

**Predicted No-Effect Concentration (PNEC):**

| Name on list                    | Environmental Compartment          | Exposure period | Value           |     |       |        | Remarks |
|---------------------------------|------------------------------------|-----------------|-----------------|-----|-------|--------|---------|
|                                 |                                    |                 | mg/l            | ppm | mg/kg | others |         |
| Aluminium nitride<br>24304-00-5 | aqua<br>(freshwater)               |                 | 0,00198<br>mg/l |     |       |        |         |
| Aluminium nitride<br>24304-00-5 | aqua (marine<br>water)             |                 | 0,0002<br>mg/l  |     |       |        |         |
| Aluminium nitride<br>24304-00-5 | sewage<br>treatment plant<br>(STP) |                 | 1 mg/l          |     |       |        |         |

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**Engineering controls:  
Ensure good ventilation/extraction.Respiratory protection:  
Ensure adequate ventilation.  
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area  
Filter type: A (EN 14387)

**Hand protection:**

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|  |  |
|--|--|
| Delivery form  | paste  |
| Colour   | red  |
| Odor   | None   |
| Physical state   | solid  |
| Melting point  | Currently under determination                          |
| Initial boiling point                                  | Currently under determination                          |
| Flammability   | Currently under determination                          |
| Explosive limits                                       | Currently under determination                          |
| Flash point  | Currently under determination                          |
| Auto-ignition temperature                              | Currently under determination                          |
| Decomposition temperature                              | Currently under determination                          |
| pH   | Not applicable   |
| Viscosity (kinematic)                                  | Currently under determination                          |
| Viscosity, dynamic<br>(; speed of rotation: 100,0 s-1) | 300 - 600 Pa*s   |
| Solubility (qualitative)<br>(Solvent: Water)           | Insoluble  |
| Partition coefficient: n-octanol/water                 | Currently under determination                          |
| Vapour pressure  | Currently under determination                          |
| Density<br>()  | 3,0 - 3,3 g/cm <sup>3</sup> no method / method unknown |
| Relative vapour density:                               | Currently under determination                          |
| Particle characteristics                               | Currently under determination                          |

**9.2. Other information**

Other information not applicable for this product

**SECTION 10: Stability and reactivity****10.1. Reactivity**

None if used properly.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

Stable under normal conditions of storage and use.

**10.5. Incompatible materials**

None if used properly.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.   | Value<br>type | Value          | Species | Method        |
|---|---------------|----------------|---------|---------------|
| Aluminium nitride<br>24304-00-5   | LD50          | > 2.000 mg/kg  | rat     | not specified |
| Siloxanes and Silicones,<br>di-Me, vinyl group-<br>terminated<br>68083-19-2 | LD50          | > 16.000 mg/kg | rat     | not specified |

**Acute dermal toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.   | Value<br>type | Value          | Species | Method        |
|---|---------------|----------------|---------|---------------|
| Siloxanes and Silicones,<br>di-Me, vinyl group-<br>terminated<br>68083-19-2 | LD50          | > 16.000 mg/kg | rabbit  | not specified |

**Acute inhalative toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value        | Test atmosphere | Exposure<br>time | Species | Method  |
|---------------------------------|---------------|--------------|-----------------|------------------|---------|---|
| Aluminium nitride<br>24304-00-5 | LC50          | > 0,317 mg/l | dust/mist       | 4 h              | rat     | equivalent or similar to OECD<br>Guideline 403 (Acute<br>Inhalation Toxicity) |

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result         | Exposure<br>time | Species  | Method  |
|---------------------------------|----------------|------------------|--|---|
| Aluminium nitride<br>24304-00-5 | not irritating |                  | Human,<br>EpiSkin™<br>(SM),<br>Reconstructed<br>Human<br>Epidermis (RHE) | OECD Guideline 439 (In Vitro Skin Irritation:<br>Reconstructed Human Epidermis (RHE) Test Method) |
| Aluminium nitride<br>24304-00-5 | not corrosive  |                  | Human, in vitro<br>skin model  | OECD Guideline 431 (In Vitro Skin Corrosion:<br>Reconstructed Human Epidermis (RHE) Test Method)  |

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result         | Exposure<br>time | Species | Method  |
|---------------------------------|----------------|------------------|---------|---|
| Aluminium nitride<br>24304-00-5 | not irritating |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

**Respiratory or skin sensitization:**

No data available.

**Germ cell mutagenicity:**

No data available.

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

No data available.

**STOT-single exposure:**

No data available.

**STOT-repeated exposure:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result / Value   | Route of<br>application | Exposure time /<br>Frequency of<br>treatment | Species | Method   |
|---------------------------------|------------------|-------------------------|--|---------|--|
| Aluminium nitride<br>24304-00-5 | NOAEL 0,002 mg/l | inhalation              | 4 w<br>6 h/d, 5 d/w                          | rat     | OECD Guideline 412<br>(Repeated Dose<br>Inhalation Toxicity:<br>28/14-Day) |

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

## SECTION 12: Ecological information

### General ecological information:

Do not empty into drains / surface water / ground water.

### 12.1. Toxicity

#### Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value     | Exposure time | Species               | Method   |
|---------------------------------|---------------|-----------|---------------|-----------------------|--|
| Aluminium nitride<br>24304-00-5 | LC50          | 9,4 mg/l  | 96 h          | Oncorhynchus mykiss   | OECD Guideline 203 (Fish, Acute Toxicity Test)           |
| Aluminium nitride<br>24304-00-5 | NOEC          | 0,02 mg/l | 60 d          | Salvelinus fontinalis | OECD Guideline 210 (fish early lite stage toxicity test) |

#### Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value    | Exposure time | Species       | Method           |
|---------------------------------|---------------|----------|---------------|---------------|------------------|
| Aluminium nitride<br>24304-00-5 | EC50          | 5,9 mg/l | 48 h          | Daphnia magna | other guideline: |

#### Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value    | Exposure time | Species       | Method                                      |
|---------------------------------|---------------|----------|---------------|---------------|---|
| Aluminium nitride<br>24304-00-5 | EC10          | 0,5 mg/l | 21 d          | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

#### Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value<br>type | Value     | Exposure time | Species                 | Method  |
|---------------------------------|---------------|-----------|---------------|-------------------------|---|
| Aluminium nitride<br>24304-00-5 | EC50          | 10,9 mg/l | 72 h          | Desmodesmus subspicatus | OECD Guideline 201 (Alga, Growth Inhibition Test) |

#### Toxicity (microorganisms):

No data available.

### 12.2. Persistence and degradability

No data available.

### 12.3. Bioaccumulative potential



The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Bioconcentration factor (BCF) | Exposure time | Temperature | Species | Method           |
|---------------------------------|-------------------------------|---------------|-------------|---------|------------------|
| Aluminium nitride<br>24304-00-5 | > 65,2 - 84,8                 | 30 d          |             | other   | other guideline: |

#### 12.4. Mobility in soil

No data available.

#### 12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | PBT / vPvB  |
|---------------------------------|---|
| Aluminium nitride<br>24304-00-5 | According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances. |

#### 12.6. Endocrine disrupting properties

not applicable

#### 12.7. Other adverse effects

No data available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product disposal:

Do not empty into drains / surface water / ground water.

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09\* waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

|  |
|--|
| <b>SECTION 14: Transport information</b> |
|--|

**14.1. UN number or ID number**

|      |      |
|------|------|
| ADR  | 3077 |
| RID  | 3077 |
| IMDG | 3077 |
| IATA | 3077 |

**14.2. UN proper shipping name**

|      |  |
|------|--|
| ADR  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Aluminium nitride) |
| RID  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Aluminium nitride) |
| IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Aluminium nitride) |
| IATA | Environmentally hazardous substance, solid, n.o.s. (Aluminium nitride) |

**14.3. Transport hazard class(es)**

|      |   |
|------|---|
| ADR  | 9 |
| RID  | 9 |
| IMDG | 9 |
| IATA | 9 |

**14.4. Packing group**

|      |     |
|------|-----|
| ADR  | III |
| RID  | III |
| IMDG | III |
| IATA | III |

**14.5. Environmental hazards**

|      |                           |
|------|---------------------------|
| ADR  | Environmentally Hazardous |
| RID  | Environmentally Hazardous |
| ADN  | Environmentally Hazardous |
| IMDG | Marine Pollutant          |
| IATA | Environmentally Hazardous |

**14.6. Special precautions for user**

|      |                               |
|------|-------------------------------|
| ADR  | not applicable<br>Tunnelcode: |
| RID  | not applicable                |
| ADN  | not applicable                |
| IMDG | not applicable                |
| IATA | not applicable                |

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

## SECTION 15: Regulatory information

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

|   |                |
|---|----------------|
| Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): | Not applicable |
| Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):     | Not applicable |
| Persistent organic pollutants (Regulation (EU) 2019/1021):      | Not applicable |
| VOC content<br>(2010/75/EC)                                     | < 3 %          |

### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

## SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- H319 Causes serious eye irritation.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

|             |   |
|-------------|---|
| ED:         | Substance identified as having endocrine disrupting properties  |
| EU OEL:     | Substance with a Union workplace exposure limit   |
| EU EXPLD 1: | Substance listed in Annex I, Reg (EC) No. 2019/1148   |
| EU EXPLD 2: | Substance listed in Annex II, Reg (EC) No. 2019/1148  |
| SVHC:       | Substance of very high concern (REACH Candidate List)   |
| PBT:        | Substance fulfilling persistent, bioaccumulative and toxic criteria   |
| PBT/vPvB:   | Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria |
| vPvB:       | Substance fulfilling very persistent and very bioaccumulative criteria  |

### Further information:

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