

Safety Data Sheet according to Regulation (EC) No 1907/2006

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BERGQUIST GAP PAD TGP 2200SF known as Gap Pad 2200SF

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

1.1. Product identifier

BERGQUIST GAP PAD TGP 2200SF known as Gap Pad 2200SF

- **1.2. Relevant identified uses of the substance or mixture and uses advised against** Intended use: Thermal Interface Material
- **1.3. Details of the supplier of the safety data sheet** Henkel AG & Co. KGaA Henkelstr. 67 40589 Düsseldorf

Germany

Phone: +49 211 797 0

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Substances and preparations marketed in a specific form or within specific containers need not to be classified according to the REACH Regulation Article 3 (3).

2.2. Label elements

Label elements (CLP):

Substances and preparations marketed in a specific form or within specific containers need not to be classified according to the REACH Regulation Article 3 (3).

2.3. Other hazards

None if used properly. Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:

Manufactured item - article

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

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|---|----------------------------|---------------|--|
| oxybis(ethane-2,1-diyloxyethane-2,1-diyl) bis[3-(dodecylthio)propionate] 64253-30-1 | 264-757-0 | 0,01-<= 0,1 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 10 |

For full text of the H - statements and other abbreviations see section 16 "Other information". Substances without classification may have community workplace exposure limits available.

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 if necessary.

Ingestion:

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

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

Silicon dioxide In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released. In case of fire, keep containers cool with water spray.

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

Scrape up as much material as possible. Sweep up spilled material. Avoid creating dust. Keep in suitable and closed containers for 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:

Good industrial hygiene practices should be observed. Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for

Great Britain

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

Occupational Exposure Limits

Valid for Ireland

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

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; >= 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; >= 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: Wear protective glasses. 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

| Appearance | solid |
|----------------------------|------------------------------------|
| | solid |
| | green |
| Odor | slightly |
| Odour threshold | No data available / Not applicable |
| рН | No data available / Not applicable |
| Melting point | No data available / Not applicable |
| Solidification temperature | No data available / Not applicable |
| Initial boiling point | No data available / Not applicable |
| Flash point | Product is a solid. |
| Evaporation rate | No data available / Not applicable |
| Flammability | No data available / Not applicable |
| Explosive limits | No data available / Not applicable |
| Vapour pressure | No data available / Not applicable |
| Relative vapour density: | No data available / Not applicable |
| Density | No data available / Not applicable |
| Bulk density | No data available / Not applicable |

| Solubility |
|--|
| Solubility (qualitative) |
| Partition coefficient: n-octanol/water |
| Auto-ignition temperature |
| Decomposition temperature |
| Viscosity |
| Viscosity (kinematic) |
| Explosive properties |
| Oxidising properties |

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

No data available / Not applicable No data available / Not applicable

10.1. Reactivity None.

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 See section reactivity.

See section reactivity.

10.6. Hazardous decomposition products carbon oxides.

carbon oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

| Hazardous substances | Value | Value | Species | Method |
|---|-------|-------------|---------|---------------|
| CAS-No. | type | | | |
| oxybis(ethane-2,1- diyloxyethane-2,1-diyl) bis[3- (dodecylthio)propionate] 64253-30-1 | LD50 | 3.359 mg/kg | rat | not specified |

Acute dermal toxicity:

| Hazardous substances | Value | Value | Species | Method |
|---|-------|---------------|---------|---------------|
| CAS-No. | type | | | |
| oxybis(ethane-2,1- diyloxyethane-2,1-diyl) bis[3- (dodecylthio)propionate] 64253-30-1 | LD50 | > 2.000 mg/kg | rabbit | not specified |

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

No data available.

Serious eye damage/irritation:

| Hazardous substances CAS-No. | Result | Exposure time | Species | Method |
|---|----------------|------------------|---------|---------------|
| oxybis(ethane-2,1- diyloxyethane-2,1-diyl) bis[3- (dodecylthio)propionate] 64253-30-1 | not irritating | | rabbit | not specified |

Respiratory or skin sensitization:

| Hazardous substances CAS-No. | Result | Test type | Species | Method |
|---|-----------------|---------------------------------|------------|---------------|
| oxybis(ethane-2,1- diyloxyethane-2,1-diyl) bis[3- (dodecylthio)propionate] 64253-30-1 | not sensitising | Guinea pig maximisation test | guinea pig | not specified |

Germ cell mutagenicity:

No data available.

Carcinogenicity

No data available.

Reproductive toxicity:

No data available.

STOT-single exposure:

No data available.

STOT-repeated exposure::

No data available.

Aspiration hazard:

No data available.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity (Fish):

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|--------------------------------|-------|----------|---------------|---------------|---------------------------|
| CAS-No. | type | | | | |
| oxybis(ethane-2,1- | LC50 | 2,3 mg/l | 96 h | not specified | OECD Guideline 203 (Fish, |
| diyloxyethane-2,1-diyl) bis[3- | | | | | Acute Toxicity Test) |
| (dodecylthio)propionate] | | | | | |
| 64253-30-1 | | | | | |

Toxicity (Daphnia):

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|--------------------------------|-------|------------|---------------|---------------|----------------------|
| CAS-No. | type | | | | |
| oxybis(ethane-2,1- | EC50 | 0,097 mg/l | 48 h | Daphnia magna | OECD Guideline 202 |
| diyloxyethane-2,1-diyl) bis[3- | | | | | (Daphnia sp. Acute |
| (dodecylthio)propionate] | | | | | Immobilisation Test) |
| 64253-30-1 | | | | | |

Chronic toxicity to aquatic invertebrates

No data available.

Toxicity (Algae):

| Hazardous substances | Value | Value | Exposure time | Species | Method |
|--------------------------------|-------|------------|---------------|---------------|---------------------------|
| CAS-No. | type | | | | |
| oxybis(ethane-2,1- | EC50 | 0,065 mg/l | 72 h | not specified | OECD Guideline 201 (Alga, |
| diyloxyethane-2,1-diyl) bis[3- | | | | | Growth Inhibition Test) |
| (dodecylthio)propionate] | | | | | |
| 64253-30-1 | | | | | |

Toxicity to microorganisms

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or vPvB.

12.6. 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: Dispose of in accordance with local and national regulations.

| SECTION 14: Transport information | |
|-----------------------------------|--|
| 14.1. | UN number |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.2. | UN proper shipping name |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.3. | Transport hazard class(es) |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.4. | Packing group |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.5. | Environmental hazards |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.6. | Special precautions for user |
| | Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR. |
| 14.7. | Transport in bulk according to Annex II of Marpol and the IBC Code |
| | not applicable |
| | |

SECTION 15: Regulatory information

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

VOC content (2010/75/EC) < 0 %

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:

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Further information:

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Substances and preparations marketed in a specific form or within specific containers need not to be classified according to the REACH Regulation Article 3 (3).

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.