

Trade name: Freeze protected mixing liquid (REF 51090)

Current version : 2.0.4, issued: 19.10.2015

Replaced version: 2.0.3, issued: 11.02.2015

Region: GB

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

1.1 Product identifier

Trade name

Freeze protected mixing liquid (REF 51090)

Begosol (REF 51090 - 51091)

BegoForm Liquid (REF 52786)

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

Relevant identified uses of the substance or mixture

Manufacturing of dental prosthesis in a dental laboratory

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet

Address

BEGO Bremer Goldschlägerei

Wilh. Herbst GmbH & Co. KG

Wilhelm-Herbst-Str. 1

28359 Bremen

Telephone no. +49/ 421/ 2028 – 0

Fax no. +49/ 421/ 2028 – 115

e-mail msds@bego.com

Information provided by / telephone

Research & Development Department - Materials, alloys and ceramics; +49/ 421/ 2028 – 130 (Chief Development Officer alloys)

Advice on Safety Data Sheet

msds@bego.com

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification information

This product does not meet the classification criteria given in the Regulation (EC) No 1272/2008 (CLP).

This product does not meet the labelling criteria given in the Directives 67/548/EWG respectively 1999/45/EC (DPD)

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms

-

Signal word

-

Hazard statements

-

Hazard statements (EU)

EUH210 Safety data sheet available on request.

Labelling information

The labelling (EU hazard statements) meets the criteria of annex II of Directive (EC) Nr. 1272/2008 (CLP).

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2.3 Other hazards

PBT assessment

The components of this product are not considered to be a PBT.

vPvB assessment

The components of this product are not considered to be a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable. The product is not a substance.

3.2 Mixtures**Hazardous ingredients**

| No | Substance name | | Additional information | |
|----|---|--|------------------------|--------|
| | CAS / EC / Index / REACH no | Classification (EC) 1272/2008 (CLP) | Concentration | |
| 1 | silicon dioxide, chemically prepared | | | |
| | 7631-86-9 231-545-4 - 01-2119379499-16 | - | > 50.00 - < 70.00 | %-b.w. |
| 2 | ethanediol | | | |
| | 107-21-1 203-473-3 603-027-00-1 01-2119456816-28 | Acute Tox. 4; H302 STOT RE 2; H373o | > 5.00 - < 10.00 | %-b.w. |

Full Text for all H-phrases and EUH-phrases: pls. see section 16

| No | Route, target organ, concrete effect |
|----|--------------------------------------|
| 2 | H373 oral; kidneys; - |

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation

Ensure supply of fresh air. Remove affected person from the immediate area.

After skin contact

Wash off immediately with soap and water.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Let plenty of water be drunk in small gulps. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam; Water spray jet; Carbon dioxide; Extinguishing powder

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Use self-contained breathing apparatus. Product itself does not burn. Adapt extinguisher and fire-fighting measures to fire in the environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Collect contaminated water / firefighting water separately. Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). When picked up, treat material as prescribed under heading "Disposal considerations".

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

No special measures necessary if stored and handled as prescribed. Provide good ventilation of working area (local exhaust ventilation, if necessary).

General protective and hygiene measures

Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Keep away from foodstuffs and beverages.

Advice on protection against fire and explosion

No special measures necessary.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place.

Recommended storage temperature

Value 20 - 30 °C

Requirements for storage rooms and vessels

Keep only in the original container. Containers which are opened must be carefully closed and kept upright to prevent leakage.

Advice on storage assembly

None known

7.3 Specific end use(s)

No data available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

| No | Substance name | CAS no. | EC no. |
|---|--------------------------------------|-----------|--|
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Silica, amorphous | | | |
| | inhalable dust | | |
| | TWA | 6 | mg/m ³ |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Silica, amorphous | | | |
| | respirable dust | | |
| | TWA | 2.4 | mg/m ³ |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| 2000/39/EWG | | | |
| Ethylene glycol | | | |
| | STEL | 104 | mg/m ³ 40 ml/m ³ |
| | TWA | 52 | mg/m ³ 20 ml/m ³ |
| | Skin resorption / sensibilisation | Skin | |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Ethane 1,2-diol | | | |
| | particulate | | |
| | TWA | 10 | mg/m ³ |
| | Skin resorption / sensibilisation | Sk | |
| List of approved workplace exposure limits (WELs) / EH40 | | | |
| Ethane 1,2-diol | | | |
| | vapour | | |
| | STEL | 104 | mg/m ³ |
| | TWA | 52 | mg/m ³ |
| | Skin resorption / sensibilisation | Sk | |

DNEL and PNEC values

DNEL values (worker)

| No | Substance name | Route of exposure | Exposure time | Effect | CAS / EC no |
|----|--------------------------------------|---------------------|---------------|--------|------------------------|
| 1 | silicon dioxide, chemically prepared | | | | 7631-86-9 231-545-4 |
| | inhalative | Long term (chronic) | systemic | | 4 mg/m ³ |
| 2 | ethanediol | | | | 107-21-1 203-473-3 |
| | dermal | Long term (chronic) | systemic | | 106 mg/kg/day |
| | inhalative | Long term (chronic) | local | | 35 mg/m ³ |

DNEL value (consumer)

| No | Substance name | Route of exposure | Exposure time | Effect | CAS / EC no |
|----|----------------|---------------------|---------------|--------|-----------------------|
| 1 | ethanediol | | | | 107-21-1 203-473-3 |
| | dermal | Long term (chronic) | systemic | | 53 mg/kg/day |
| | inhalative | Long term (chronic) | local | | 7 mg/m ³ |

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PNEC values

| No | Substance name | | CAS / EC no | |
|----|------------------------|-----------------------|-----------------------|------------------|
| | ecological compartment | Type | Value | |
| 1 | ethanediol | | 107-21-1 203-473-3 | |
| | water | fresh water | 10 | mg/l |
| | water | marine water | 1 | mg/l |
| | water | Aqua intermittent | 10 | mg/l |
| | water | fresh water sediment | 37 | mg/kg dry weight |
| | water | marine water sediment | 3.7 | mg/kg dry weight |
| | soil | - | 1.53 | mg/kg |
| | sewage treatment plant | - | 199.5 | mg/l |

8.2 Exposure controls

Appropriate engineering controls

No data available.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.

Eye / face protection

Safety glasses (EN 166)

Hand protection

In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--------------|
| Form/Colour | |
| liquid | |
| opaline; milky | |
| Odour | |
| sweetish | |
| Odour threshold | |
| No data available | |
| pH value | |
| Value | 8.0 - 10.5 |
| Boiling point / boiling range | |
| Value | appr. 100 °C |
| Melting point / melting range | |
| Value | appr. -15 °C |
| Decomposition point / decomposition range | |
| No data available | |
| Flash point | |
| not determined | |

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| | | | |
|---|---------|----|------------------------|
| Auto-ignition temperature | | | |
| No data available | | | |
| Oxidising properties | | | |
| No data available | | | |
| Explosive properties | | | |
| No data available | | | |
| Flammability (solid, gas) | | | |
| No data available | | | |
| Lower flammability or explosive limits | | | |
| No data available | | | |
| Upper flammability or explosive limits | | | |
| No data available | | | |
| Vapour pressure | | | |
| Value | appr. | 20 | hPa |
| Reference temperature | | 20 | °C |
| Vapour density | | | |
| No data available | | | |
| Evaporation rate | | | |
| No data available | | | |
| Relative density | | | |
| No data available | | | |
| Density | | | |
| Value | 1.05 | - | 1.50 g/cm ³ |
| Reference temperature | | | 20 °C |
| Solubility in water | | | |
| No data available | | | |
| Solubility(ies) | | | |
| No data available | | | |
| Partition coefficient: n-octanol/water | | | |
| No data available | | | |
| Viscosity | | | |
| Value | 2 | - | 50 mPa*s |
| Reference temperature | | | 20 °C |
| Type | dynamic | | |

9.2 Other information

| |
|--------------------------|
| Other information |
| No data available. |

SECTION 10: Stability and reactivity

10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

None, if handled according to order.

10.4 Conditions to avoid

None, if handled according to intended use.

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10.5 Incompatible materials

strong oxidizing agents; Rubber; Electrolytes; cationic agents

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| Acute oral toxicity | | | |
|---------------------------|---|-----------|------------------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| LD50 | > | 5000 | mg/kg bodyweight |
| Species | rat | | |
| Method | OECD 401 | | |
| Source | ECHA | | |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| LD50 | > | 5000 | mg/kg bodyweight |
| Species | rat | | |
| Source | ECHA | | |
| Evaluation/classification | Based on available data, the classification criteria are met. | | |

| Acute dermal toxicity | | | |
|-----------------------|--------------------------------------|-----------|------------------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| LD50 | > | 2000 | mg/kg bodyweight |
| Species | rabbit | | |
| Source | ECHA | | |

| Acute inhalational toxicity | | | |
|-----------------------------|---|-----------|-----------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| LC50 | > | 0.14 | mg/l |
| Duration of exposure | | 4 | h |
| State of aggregation | Dust | | |
| Species | rat | | |
| Method | OECD 403 | | |
| Source | ECHA | | |
| Evaluation/classification | Based on available data, the classification criteria are not met. | | |

| Skin corrosion/irritation | | | |
|---------------------------|--------------------------------------|-----------|-----------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| Species | rabbit | | |
| Method | OECD 404 | | |
| Source | ECHA | | |
| Evaluation | non-irritant | | |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| Duration of exposure | | 20 | h |
| Species | rabbit | | |
| Source | ECHA | | |
| Evaluation | non-irritant | | |

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| Serious eye damage/irritation | | | |
|--|--------------------------------------|---|-----------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| | Species | rabbit | |
| | Method | OECD 405 | |
| | Source | ECHA | |
| | Evaluation | non-irritant | |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| | Duration of exposure | 24 | h |
| | Species | rabbit | |
| | Source | ECHA | |
| | Evaluation | non-irritant | |
| Respiratory or skin sensitisation | | | |
| No | Substance name | CAS no. | EC no. |
| 1 | ethanediol | 107-21-1 | 203-473-3 |
| | Route of exposure | Skin | |
| | Species | Human | |
| | Source | ECHA | |
| | Evaluation | non-sensitizing | |
| Germ cell mutagenicity | | | |
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| | Source | ECHA | |
| | Evaluation/classification | Based on available data, the classification criteria are not met. | |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| | Type of examination | Bacterial Reverse Mutation Test | |
| | Species | Salmonella typhimurium | |
| | Method | OECD 471 | |
| | Source | ECHA | |
| | Evaluation/classification | Based on available data, the classification criteria are not met. | |
| Reproduction toxicity | | | |
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| | Species | rat | |
| | Method | OECD 414 | |
| | Source | ECHA | |
| | Evaluation/classification | Based on available data, the classification criteria are not met. | |
| Carcinogenicity | | | |
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| | Species | rat | |
| | Method | OECD 453 | |
| | Source | ECHA | |
| | Evaluation/classification | Based on available data, the classification criteria are not met. | |

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| STOT-single exposure | | | |
|----------------------|--|--|--|
| No data available | | | |

| STOT-repeated exposure | | | |
|---------------------------|--------------------------------------|---|------------|
| No | Substance name | CAS no. | EC no. |
| 1 | silicon dioxide, chemically prepared | 7631-86-9 | 231-545-4 |
| Route of exposure | | oral | |
| Species | | rat | |
| Method | | OECD 408 | |
| Source | | ECHA | |
| Evaluation/classification | | Based on available data, the classification criteria are not met. | |
| Route of exposure | | inhalational | |
| Species | | rat | |
| Method | | OECD 413 | |
| Source | | ECHA | |
| Evaluation/classification | | Based on available data, the classification criteria are not met. | |
| 2 | ethanediol | 107-21-1 | 203-473-3 |
| Route of exposure | | oral | |
| NOAEL | | 150 | mg/kg bw/d |
| Duration of exposure | | 12 | months |
| Species | | rat | |
| Target organ | | kidneys | |
| Method | | OECD 452 | |
| Source | | ECHA | |
| Evaluation/classification | | Based on available data, the classification criteria are met. | |

| Aspiration hazard | | | |
|-------------------|--|--|--|
| No data available | | | |

SECTION 12: Ecological information

12.1 Toxicity

| Toxicity to fish (acute) | | | |
|--------------------------|----------------|---------------------|------------|
| No | Substance name | CAS no. | EC no. |
| 1 | ethanediol | 107-21-1 | 203-473-3 |
| LC50 | | > | 50000 mg/l |
| Duration of exposure | | 96 | h |
| Species | | Pimephales promelas | |
| Source | | ECHA | |

| Toxicity to fish (chronic) | | | |
|----------------------------|--|--|--|
| No data available | | | |

| Toxicity to Daphnia (acute) | | | |
|-----------------------------|----------------|---------------|-----------|
| No | Substance name | CAS no. | EC no. |
| 1 | ethanediol | 107-21-1 | 203-473-3 |
| EC50 | | > | 100 mg/l |
| Duration of exposure | | 48 | h |
| Species | | Daphnia magna | |
| Method | | OECD 202 | |
| Source | | ECHA | |

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Toxicity to Daphnia (chronic)

No data available

Toxicity to algae (acute)

No data available

Toxicity to algae (chronic)

No data available

Bacteria toxicity

No data available

12.2 Persistence and degradability

Biodegradability

| No | Substance name | CAS no. | EC no. |
|------------|--------------------|----------|-----------|
| 1 | ethanediol | 107-21-1 | 203-473-3 |
| Type | DOC decrease | | |
| Value | 90 | - 100 | % |
| Duration | | 10 | day(s) |
| Method | OECD 301 A | | |
| Source | ECHA | | |
| Evaluation | readily degradable | | |

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

| | |
|-----------------|---|
| PBT assessment | The components of this product are not considered to be a PBT. |
| vPvB assessment | The components of this product are not considered to be a vPvB. |

12.6 Other adverse effects

Other adverse effects

No ecological effect is to be expected, if used and handled as intended.

12.7 Other information

Other information

Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

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SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

14.2 Transport IMDG

The product is not subject to IMDG regulations.

14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

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

Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is not subject to Part 1 or 2 of Annex I.

Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment

No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

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Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H302

Harmful if swallowed.

H373o

May cause damage to organs through prolonged or repeated exposure if swallowed.

Department issuing safety data sheet

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This information is based on our present state of knowledge and experience.

The security data sheet describes products with a view to the security requirements.

However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

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