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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Porcelain Bonding Resin</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

Use of the substance/mixture: For RX only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer:
Bisco, Inc. 1100 W Irving Park Road, Schaumburg, IL 60193 USA
1-847-534-6000, during normal business hours
www.bisco.com

EC Representative:
Bisico France, 208, allée de la Coudoulette, 13680 Lançon de Provence, France
Telephone: 33-4-90-42-92-92

1.4. Emergency telephone number

Emergency number: CHEMTREC - 24-Hour Hazmat Emergency Communications Center
Domestic: 1-800-424-9300 Outside the U.S.: 1-703-527-3887, collect calls accepted

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation, Category 2</td>
<td>H315</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation, Category 2</td>
<td>H319</td>
</tr>
<tr>
<td>Skin sensitisation, Category 1</td>
<td>H317</td>
</tr>
<tr>
<td>Specific target organ toxicity — Single exposure, Category 3</td>
<td>H336</td>
</tr>
</tbody>
</table>

Adverse physicochemical, human health and environmental effects

May cause drowsiness or dizziness. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

2.2. Label elements

Label elements

Hazard pictograms (CLP):

Signal word (CLP): Warning

Hazardous ingredients:
Urethane Dimethacrylate; BisGMA

Hazard statements (CLP):

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary statements (CLP):

P261 - Avoid breathing vapours
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves, face protection, eye protection
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove...

2/12/2018 EN (English)
2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane Dimethacrylate</td>
<td>(CAS-No.) Proprietary</td>
<td>10 - 30</td>
<td>Eye Irrit. 2, H319 STOT SE 3, H336</td>
</tr>
<tr>
<td>BisGMA</td>
<td>(CAS-No.) 1556-94-2</td>
<td>10 - 30</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317</td>
</tr>
<tr>
<td>Tetrahydrofurfuryl Methacrylate</td>
<td>(CAS-No.) 2455-24-5</td>
<td>10 - 30</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335</td>
</tr>
<tr>
<td>Trimethylolpropane Trimethacrylate</td>
<td>(CAS-No.) 3290-92-4 (EC-No.) 221-900-4</td>
<td>1 - 5</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects: May cause drowsiness or dizziness.

Symptoms/effects after skin contact: Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact: Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

**Emergency procedures**: Ventilate spillage area. Avoid breathing mist, vapours. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

**Protective equipment**: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

### 6.2. Environmental precautions

Avoid release to the environment.

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

**Methods for cleaning up**: Take up liquid spill into absorbent material.

**Other information**: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Precautions for safe handling**: Use only outdoors or in a well-ventilated area. Avoid breathing mist, vapours. Avoid contact with skin and eyes. Wear personal protective equipment.

**Hygiene measures**: Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

**Storage conditions**: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

**Appropriate engineering controls**: Ensure good ventilation of the work station.

**Hand protection**: Protective gloves

**Eye protection**: Protective goggles

**Skin and body protection**: Wear suitable protective clothing

**Respiratory protection**: In case of insufficient ventilation, wear suitable respiratory equipment

**Environmental exposure controls**: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Light yellow.</td>
</tr>
<tr>
<td>Odour</td>
<td>Acrylic.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Porcelain Bonding Resin
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Relative evaporation rate (butylacetate=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : Not available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

<table>
<thead>
<tr>
<th>Urethane Dimethacrylate</th>
<th>(Proprietary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>N/A</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>N/A</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>N/A</td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>N/A</td>
</tr>
<tr>
<td>LC50 inhalation rat (Dust/Mist - mg/l/4h)</td>
<td>N/A mg/l/4h</td>
</tr>
<tr>
<td>LC50 inhalation rat (Vapours - mg/l/4h)</td>
<td>N/A mg/l/4h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trimethylolpropane Trimethacrylate (3290-92-4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
</tbody>
</table>
Porcelain Bonding Resin
Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Reproductive toxicity : Not classified

STOT-single exposure : May cause drowsiness or dizziness.

<table>
<thead>
<tr>
<th>Urethane Dimethacrylate (Proprietary)</th>
<th>LOAEL (oral, rat)</th>
<th>N/A mg/kg bodyweight</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL (dermal, rat/rabbit)</td>
<td>N/A mg/kg bodyweight</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat, gas)</td>
<td>N/A ppmv/4h</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat, vapour)</td>
<td>N/A mg/l/4h</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat, dust/mist/fume)</td>
<td>N/A mg/l/4h</td>
<td></td>
</tr>
</tbody>
</table>

STOT-repeated exposure : Not classified

<table>
<thead>
<tr>
<th>Urethane Dimethacrylate (Proprietary)</th>
<th>LOAEL (oral, rat, 90 days)</th>
<th>N/A mg/kg bodyweight/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEL (dermal, rat/rabbit, 90 days)</td>
<td>N/A mg/kg bodyweight/day</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat, gas, 90 days)</td>
<td>N/A ppmv/6h/day</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat, vapour, 90 days)</td>
<td>N/A mg/l/6h/day</td>
<td></td>
</tr>
<tr>
<td>LOAEC (inhalation, rat,dust/mist/fume, 90 days)</td>
<td>N/A mg/l/6h/day</td>
<td></td>
</tr>
</tbody>
</table>

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Tetrahydrofurfuryl Methacrylate (2455-24-5)
LC50 fish 1 34.7 mg/l (LC50; 96 h; Pimephales promelas)

12.2. Persistence and degradability
Trimethylolpropane Trimethacrylate (3290-92-4)
Persistence and degradability : Not readily biodegradable in water.

Tetrahydrofurfuryl Methacrylate (2455-24-5)
Persistence and degradability : Biodegradability in water: no data available. No (test)data on mobility of the substance available.

12.3. Bioaccumulative potential
Trimethylolpropane Trimethacrylate (3290-92-4)
Log Pow 4.39

Tetrahydrofurfuryl Methacrylate (2455-24-5)
Log Pow 1.3
Bioaccumulative potential : Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods : Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : Not applicable
Porcelain Bonding Resin
Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

| UN-No. (IMDG) | Not applicable |
| UN-No. (IATA) | Not applicable |
| UN-No. (ADN)  | Not applicable |
| UN-No. (RID)  | Not applicable |

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN)  : Not applicable
Proper Shipping Name (RID)  : Not applicable

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN)  : Not applicable

RID
Transport hazard class(es) (RID)  : Not applicable

14.4. Packing group
Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN)  : Not applicable
Packing group (RID)  : Not applicable

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant               : No
Other information             : No supplementary information available

14.6. Special precautions for user
- Overland transport
  Not applicable
- Transport by sea
  Not applicable
- Air transport
  Not applicable
- Inland waterway transport
  Not applicable
- Rail transport
  Not applicable

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

15.1.1. EU-Regulations

2/12/2018 EN (English)
Porcelain Bonding Resin
Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany
VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

Netherlands
SZW-lijs van kankerverwekkende stoffen : None of the components are listed
SZW-lijs van mutagene stoffen : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Revision date : 07/17/2018
Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irr. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Skin Irr. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitisation, Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Narcosis</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.