SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: TheraCem Base

1.2. Recommended use and restrictions on use
Use of the substance/mixture: For RX only

1.3. Supplier
Manufacturer
Bisco, Inc.
1100 W. Irving Park Rd.
Schaumburg, IL 60193
T 1.847.534.6000 - F 1.847.891.5049
sales@bisco.com - www.bisco.com

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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Skin sensitization, Category 1
Specific target organ toxicity (single exposure) Category 3

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation

Full text of H statements: see section 16

2.2. GHS Label element, including precautionary statements

GHS-US labeling
Hazard pictograms (GHS-US): !

Signal word (GHS-US): Warning

Hazard statements (GHS-US):
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US):
P261 - Avoid breathing vapors.
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection protective gloves, face protection, eye protection
P302+P352 - If on skin: Wash with plenty of water and soap Wash skin with soap and water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a poison center/a doctor if you feel unwell Call a doctor, a POISON CENTER
P321 - Specific treatment (see First aid measures on this label)
P332+P331 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
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P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose in a safe manner in accordance with local/national regulations

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

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>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement</td>
<td>(CAS-No.) 65997-15-1</td>
<td>20 - 50</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irr. 2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H317</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td>Ytterbium with Barium Glass</td>
<td>(CAS-No.) NA</td>
<td>30 - 50</td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>Proprietary</td>
<td>(CAS-No.) Proprietary</td>
<td>1 - 10</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irr. 2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
<tr>
<td>Ytterbium Fluoride</td>
<td>(CAS-No.) 13760-80-0</td>
<td>1 - 5</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td>BisGMA</td>
<td>(CAS-No.) 1565-94-2</td>
<td>1 - 5</td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>Proprietary</td>
<td>(CAS-No.) Proprietary</td>
<td>&lt; 1</td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2B, H320</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H317</td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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/doctor/physician if you feel unwell.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
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/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: May cause respiratory irritation.
Symptoms/effects after skin contact: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact: Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

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 dust/fume/gas/mist/vapors/spray. 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: Mechanically recover the product.

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 dust/fume/gas/mist/vapors/spray. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Portland Cement (65997-15-1)</th>
<th>ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
<th>1 mg/m³ (Respirable fraction. The value is for particulate matter containing no asbestos and &lt; 1% crystalline silica)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary (Proprietary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary (Proprietary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ytterbium Fluoride (13760-80-0)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BisGMA (1565-94-2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ytterbium w/ Barium Glass (NA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

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

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:
Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Paste</td>
</tr>
<tr>
<td>Color</td>
<td>Straw</td>
</tr>
<tr>
<td>Odor</td>
<td>Acrylic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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

**Proprietary (Proprietary)**

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rat</th>
<th>LD50 dermal rabbit</th>
<th>LC50 inhalation rat (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ytterbium Fluoride (13760-80-0)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Ytterbium Fluoride (13760-80-0)**

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rat</th>
<th>LD50 dermal rabbit</th>
<th>LC50 inhalation rat (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ytterbium Fluoride (13760-80-0)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

- Causes skin irritation.

**Serious eye damage/irritation**

- Causes serious eye irritation.

**Respiratory or skin sensitization**

- May cause an allergic skin reaction.

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Proprietary (Proprietary)

- **IARC group**

  - 4 - Probably not carcinogenic to humans

**Proprietary (Proprietary)**

<table>
<thead>
<tr>
<th>Compound</th>
<th>LOAEL (oral,rat)</th>
<th>LOAEL (dermal,rat/rabbit)</th>
<th>LOAEL (inhalation,rat,gas)</th>
<th>LOAEL (inhalation,rat,vapour )</th>
<th>LOAEL (inhalation,rat,dust/mist/fume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ytterbium Fluoride (13760-80-0)</td>
<td>N/A mg/kg body weight</td>
<td>N/A mg/kg body weight</td>
<td>N/A ppmV/4h</td>
<td>N/A mg/l/4h</td>
<td>N/A mg/l/4h</td>
</tr>
</tbody>
</table>

**Ytterbium Fluoride (13760-80-0)**

<table>
<thead>
<tr>
<th>Compound</th>
<th>LOAEL (oral,rat)</th>
<th>LOAEL (dermal,rat/rabbit)</th>
<th>LOAEL (inhalation,rat,gas)</th>
<th>LOAEL (inhalation,rat,vapour )</th>
<th>LOAEL (inhalation,rat,dust/mist/fume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ytterbium Fluoride (13760-80-0)</td>
<td>N/A mg/kg body weight</td>
<td>N/A mg/kg body weight</td>
<td>N/A ppmV/4h</td>
<td>N/A mg/l/4h</td>
<td>N/A mg/l/4h</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

- Not classified

**Specific target organ toxicity – single exposure**

- May cause respiratory irritation.
**TheraCem Base**

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<table>
<thead>
<tr>
<th>Ytterbium Fluoride (13760-80-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAEC (inhalation,rat,gas,90 days)</td>
<td>N/A ppmV/6h/day</td>
</tr>
<tr>
<td>LOAEC (inhalation,rat,vapour,90 days)</td>
<td>N/A mg/l/6h/day</td>
</tr>
<tr>
<td>LOAEC (inhalation,rat,dust/mist/fume,90 days)</td>
<td>N/A mg/l/6h/day</td>
</tr>
</tbody>
</table>

Aspiration hazard: Not classified

Symptoms/effects after inhalation: May cause respiratory irritation.

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

Symptoms/effects after eye contact: Eye irritation.

**SECTION 12: Ecological information**

12.1. **Toxicity**

Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**Portland Cement (65997-15-1)**

LC50 fish 1: > 1000 mg/l (96 h, Pisces)

**Ytterbium Fluoride (13760-80-0)**

EC50 Daphnia 1: 190 mg/l

12.2. **Persistence and degradability**

**Portland Cement (65997-15-1)**

Persistence and degradability: Biodegradability: not applicable.
Biochemical oxygen demand (BOD): Not applicable
Chemical oxygen demand (COD): Not applicable
ThOD: Not applicable
BOD (% of ThOD): Not applicable

12.3. **Bioaccumulative potential**

**Portland Cement (65997-15-1)**

Bioaccumulative potential: Bioaccumulation: not applicable.

12.4. **Mobility in soil**

**Portland Cement (65997-15-1)**

Ecology - soil: No (test)data on mobility of the substance available.

12.5. **Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

13.1. **Disposal methods**

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

**SECTION 14: Transport information**

Department of Transportation (DOT)

In accordance with DOT

Other information: No supplementary information available.
**TheraCem Base**

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**Transportation of Dangerous Goods**

**Transport by sea**

Not applicable

**Air transport**

Not applicable

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**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

No additional information available

---

**15.2. International regulations**

**CANADA**

No additional information available

**EU-Regulations**

No additional information available

**National regulations**

No additional information available

**15.3. US State regulations**

No additional information available

---

**SECTION 16: Other information**

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>H315</th>
<th>Causes skin irritation</th>
</tr>
</thead>
<tbody>
<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>H320</td>
<td>Causes eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

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.