SECTION 1: Identification

1.1. Product identifier
3M™ ESPE™ FILTEK™ BULK FILL POSTERIOR RESTORATIVE

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Restorative

Restrictions on use
For use only by dental professionals

1.3. Supplier’s details

MANUFACTURER: 3M
DIVISION: 3M ESPE Dental Products
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification
Skin Sensitizer: Category 1.

2.2. Label elements

Signal word
Warning

Symbols
Exclamation mark |

Pictograms
Hazard Statements
May cause an allergic skin reaction.

Precautionary Statements

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

31% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC</td>
<td>444758-98-9</td>
<td>60 - 70</td>
</tr>
<tr>
<td>AROMATIC URETHANE DIMETHACRYLATE</td>
<td>1431303-59-1</td>
<td>10 - 20</td>
</tr>
<tr>
<td>YTTERBIUM FLUORIDE (YbF3)</td>
<td>13760-80-0</td>
<td>1 - 10</td>
</tr>
<tr>
<td>DIURETHANE DIMETHACRYLATE (UDMA)</td>
<td>72869-86-4</td>
<td>1 - 10</td>
</tr>
<tr>
<td>SILANE TREATED SILICA</td>
<td>248596-91-0</td>
<td>1 - 10</td>
</tr>
<tr>
<td>1,12-DODECANE DIMETHACRYLATE (DDDMA)</td>
<td>72829-09-5</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>SILANE TREATED ZIRCONIA</td>
<td>Unknown</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Pentanedioc acid, 2,2-dimethyl-4-methylene-, reaction products with glycidyl methacrylate</td>
<td>1429648-13-4</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB)</td>
<td>10287-53-3</td>
<td>&lt; 0.5</td>
</tr>
<tr>
<td>BENZOTRIAZOL</td>
<td>96478-09-0</td>
<td>&lt; 0.5</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>&lt; 0.2</td>
</tr>
</tbody>
</table>

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

4.2. **Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

4.3. **Indication of any immediate medical attention and special treatment required**
Not applicable.

### SECTION 5: Fire-fighting measures

5.1. **Suitable extinguishing media**
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. **Special hazards arising from the substance or mixture**
None inherent in this product.

**Hazardous Decomposition or By-Products**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</td>
</tr>
</tbody>
</table>

5.3. **Special protective actions for fire-fighters**
No special protective actions for fire-fighters are anticipated.

### SECTION 6: Accidental release measures

6.1. **Personal precautions, protective equipment and emergency procedures**
Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. **Environmental precautions**
Avoid release to the environment.

6.3. **Methods and material for containment and cleaning up**
Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

### SECTION 7: Handling and storage

7.1. **Precautions for safe handling**
Avoid breathing of dust created by cutting, sanding, grinding or machining. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove,
7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>ACGIH</td>
<td>TWA:10 mg/m³</td>
<td>A4: Not class. as human</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>carcin</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>CMRG</td>
<td>TWA(as respirable dust):5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>OSHA</td>
<td>TWA(as total dust):15 mg/m³</td>
<td></td>
</tr>
<tr>
<td>FLUORIDES</td>
<td>13760-80-0</td>
<td>ACGIH</td>
<td>TWA(as F):2.5 mg/m³</td>
<td>A4: Not class. as human</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>carcin</td>
</tr>
<tr>
<td>FLUORIDES</td>
<td>13760-80-0</td>
<td>OSHA</td>
<td>TWA(as dust):2.5 mg/m³; TWA(as F):2.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

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

General Physical Form: Solid
Specific Physical Form: Paste
Odor, Color, Grade: Slight acrylate odor, tooth colored
Odor threshold: No Data Available
pH: Not Applicable
Melting point: No Data Available
Boiling Point: Not Applicable
Flash Point: No flash point
Evaporation rate: Not Applicable
Flammability (solid, gas): Not Classified
Flammable Limits (LEL): Not Applicable
Flammable Limits (UEL): Not Applicable
Vapor Pressure: Not Applicable
Vapor Density: Not Applicable
Density: 1.9 g/cm³
Specific Gravity: 1.9 [Ref Std: WATER=1]
Solubility in Water: Negligible
Solubility - non-water: No Data Available
Partition coefficient: n-octanol/water: Not Applicable
Autoignition temperature: No Data Available
Decomposition temperature: No Data Available
Viscosity: No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat
High shear and high temperature conditions

10.5. Incompatible materials
Strong oxidizing agents

10.6. Hazardous decomposition products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>None known.</td>
<td></td>
</tr>
</tbody>
</table>

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be
reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

**Inhalation:**
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Skin Contact:**
Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Carcinogenicity:**
Exposures needed to cause the following health effect(s) are not expected during normal, intended use:
- Contains a chemical or chemicals which can cause cancer.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Class Description</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>Grp. 2B: Possible human carc.</td>
<td>International Agency for Research on Cancer</td>
</tr>
</tbody>
</table>

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall product</td>
<td>Ingestion</td>
<td>No data available; calculated ATE 2,000 - 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>SILANE TREATED CERAMIC</td>
<td>Dermal</td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>SILANE TREATED CERAMIC</td>
<td>Ingestion</td>
<td>LD50 estimated to be 2,000 - 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>YTTERBIUM FLUORIDE (YbF3)</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>DIURETHANE DIMETHACRYLATE (UDMA)</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>SILANE TREATED SILICA</td>
<td>Dermal</td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>SILANE TREATED SILICA</td>
<td>Ingestion</td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>1,12-DODECANE DIMETHACRYLATE (DDDMA)</td>
<td>Ingestion</td>
<td>similar compunds</td>
<td>LD50 2000-5000 mg/kg</td>
</tr>
<tr>
<td>ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB)</td>
<td>Ingestion</td>
<td>LD50 estimated to be 300 - 2,000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Inhalation-Dust/Mist (4 hours)</td>
<td>Rat</td>
<td>LC50 &gt; 6.82 mg/l</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 10,000 mg/kg</td>
</tr>
</tbody>
</table>
ATE = acute toxicity estimate

### Skin Corrosion/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC similar compounds</td>
<td>No significant irritation</td>
<td></td>
</tr>
<tr>
<td>SILANE TREATED SILICA</td>
<td></td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

### Serious Eye Damage/Irritation

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC similar compounds</td>
<td>Mild irritant</td>
<td></td>
</tr>
<tr>
<td>SILANE TREATED SILICA</td>
<td></td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

### Skin Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC similar compounds</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td></td>
</tr>
<tr>
<td>Fentanedione acid, 2,2-dimethyl-4-methylene-, reaction products with glycidyl methacrylate similar compounds</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Human and animal</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

### Respiratory Sensitization

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
</table>

### Germ Cell Mutagenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>In Vitro</td>
<td>Not mutagenic</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>In vivo</td>
<td>Not mutagenic</td>
</tr>
</tbody>
</table>

### Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC similar compounds</td>
<td>Inhalation</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Ingestion</td>
<td>Multiple animal species</td>
<td>Not carcinogenic</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>Inhalation</td>
<td>Rat</td>
<td>Carcinogenic</td>
</tr>
</tbody>
</table>

### Reproductive Toxicity

### Reproductive and/or Developmental Effects

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
</table>

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure Duration</th>
</tr>
</thead>
</table>

### Specific Target Organ Toxicity - repeated exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Target Organ(s)</th>
<th>Value</th>
<th>Species</th>
<th>Test Result</th>
<th>Exposure</th>
</tr>
</thead>
</table>
### Aspiration Hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
</table>

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

### SECTION 12: Ecological information

**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

**Chemical fate information**

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

### SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

### SECTION 14: Transport Information

For Transport Information, please visit [http://3M.com/Transportinfo](http://3M.com/Transportinfo) or call 1-800-364-3577 or 651-737-6501.

### SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No
- Immediate Hazard - Yes
- Delayed Hazard - No

This material contains a chemical which requires export notification under TSCA Section 12[b]:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inhalation</th>
<th>Duration</th>
<th>NOAEL</th>
<th>LOEAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILANE TREATED CERAMIC</td>
<td>lung</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>respiratory system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>lung</td>
<td>NOAEL Not available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inhalation</th>
<th>Duration</th>
<th>NOAEL</th>
<th>LOEAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>respiratory system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>lung</td>
<td>NOAEL Not available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ingredient (Category if applicable) | C.A.S. No | Regulation | Status
--- | --- | --- | ---
BENZOTRIAZOL | 96478-09-0 | Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals | Applicable

This material contains a chemical regulated by an EPA Significant New Use Rule (TSCA Section 5)

| Ingredient (Category if applicable) | C.A.S. No | Reference |
--- | --- | ---
BENZOTRIAZOL | 96478-09-0 | 40CFR721.8450 |

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### SECTION 16: Other information

NFPA Hazard Classification

| Health | Flammability | Instability | Special Hazards |
--- | --- | --- | ---
2 | 1 | 0 | None |

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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