

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

075023916

**The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).**

070387076 070617324 070617332 070617340 070617357 070617449 070617639 070617647 070617654 070617662  
070617670 075023759 075023767 075023775 075023783 075023791 075023908 075023924 075023932 075023940  
273012944 273016310 273018183 273022135 273023188 273023189



## Safety Data Sheet

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**Document Group:** 33-1594-2  
**Issue Date:** 07/07/14

**Version Number:** 2.00  
**Supersedes Date:** 03/10/14

### 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

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

\*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**

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

**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,

remove and discard glove, wash hands immediately with soap and water and then re-glove. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**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**

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

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**

|  |                                     |
|--|-------------------------------------|
| <b>General Physical Form:</b>                  | Solid                               |
| <b>Specific Physical Form:</b>                 | Paste                               |
| <b>Odor, Color, Grade:</b>                     | Slight acrylate odor, tooth colored |
| <b>Odor threshold</b>                          | <i>No Data Available</i>            |
| <b>pH</b>                                      | <i>Not Applicable</i>               |
| <b>Melting point</b>                           | <i>No Data Available</i>            |
| <b>Boiling Point</b>                           | <i>Not Applicable</i>               |
| <b>Flash Point</b>                             | No flash point                      |
| <b>Evaporation rate</b>                        | <i>Not Applicable</i>               |
| <b>Flammability (solid, gas)</b>               | Not Classified                      |
| <b>Flammable Limits(LEL)</b>                   | <i>Not Applicable</i>               |
| <b>Flammable Limits(UEL)</b>                   | <i>Not Applicable</i>               |
| <b>Vapor Pressure</b>                          | <i>Not Applicable</i>               |
| <b>Vapor Density</b>                           | <i>Not Applicable</i>               |
| <b>Density</b>                                 | 1.9 g/cm <sup>3</sup>               |
| <b>Specific Gravity</b>                        | 1.9 [Ref Std: WATER=1]              |
| <b>Solubility in Water</b>                     | Negligible                          |
| <b>Solubility- non-water</b>                   | <i>No Data Available</i>            |
| <b>Partition coefficient: n-octanol/ water</b> | <i>Not Applicable</i>               |
| <b>Autoignition temperature</b>                | <i>No Data Available</i>            |
| <b>Decomposition temperature</b>               | <i>No Data Available</i>            |
| <b>Viscosity</b>                               | <i>No Data Available</i>            |

**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****Substance**

None known.

**Condition**

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.

| Ingredient       | C.A.S. No. | Class Description             | Regulation                                  |
|------------------|------------|-------------------------------|---|
| Titanium Dioxide | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

**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**

| Name                                    | Route                          | Species           | Value   |
|---|--------------------------------|-------------------|---|
| Overall product                         | Ingestion                      |                   | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| SILANE TREATED CERAMIC                  | Dermal                         |                   | LD50 estimated to be > 5,000 mg/kg                    |
| SILANE TREATED CERAMIC                  | Ingestion                      |                   | LD50 estimated to be 2,000 - 5,000 mg/kg              |
| YTTERBIUM FLUORIDE (YbF3)               | Ingestion                      | Rat               | LD50 > 5,000 mg/kg                                    |
| DIURETHANE DIMETHACRYLATE (UDMA)        | Ingestion                      | Rat               | LD50 > 5,000 mg/kg                                    |
| SILANE TREATED SILICA                   | Dermal                         |                   | LD50 estimated to be > 5,000 mg/kg                    |
| SILANE TREATED SILICA                   | Ingestion                      |                   | LD50 estimated to be > 5,000 mg/kg                    |
| 1,12-DODECANE DIMETHACRYLATE (DDDMA)    | Ingestion                      | similar compounds | LD50 2000-5000 mg/kg                                  |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Ingestion                      |                   | LD50 estimated to be 300 - 2,000 mg/kg                |
| Titanium Dioxide                        | Dermal                         | Rabbit            | LD50 > 10,000 mg/kg                                   |
| Titanium Dioxide                        | Inhalation-Dust/Mist (4 hours) | Rat               | LC50 > 6.82 mg/l                                      |
| Titanium Dioxide                        | Ingestion                      | Rat               | LD50 > 10,000 mg/kg                                   |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name                   | Species           | Value                     |
|------------------------|-------------------|---------------------------|
| SILANE TREATED CERAMIC | similar compounds | No significant irritation |
| SILANE TREATED SILICA  |                   | No significant irritation |
| Titanium Dioxide       | Rabbit            | No significant irritation |

**Serious Eye Damage/Irritation**

| Name                   | Species           | Value                     |
|------------------------|-------------------|---------------------------|
| SILANE TREATED CERAMIC | similar compounds | Mild irritant             |
| SILANE TREATED SILICA  |                   | No significant irritation |
| Titanium Dioxide       | Rabbit            | No significant irritation |

**Skin Sensitization**

| Name   | Species           | Value  |
|--|-------------------|--|
| SILANE TREATED CERAMIC   | similar compounds | Some positive data exist, but the data are not sufficient for classification |
| Pentanedioic acid, 2,2-dimethyl-4-methylene-, reaction products with glycidyl methacrylate | similar compounds | Some positive data exist, but the data are not sufficient for classification |
| Titanium Dioxide   | Human and animal  | Not sensitizing  |

**Respiratory Sensitization**

| Name | Species | Value |
|------|---------|-------|
|      |         |       |

**Germ Cell Mutagenicity**

| Name             | Route    | Value         |
|------------------|----------|---------------|
| Titanium Dioxide | In Vitro | Not mutagenic |
| Titanium Dioxide | In vivo  | Not mutagenic |

**Carcinogenicity**

| Name                   | Route      | Species                 | Value  |
|------------------------|------------|-------------------------|--|
| SILANE TREATED CERAMIC | Inhalation | similar compounds       | Some positive data exist, but the data are not sufficient for classification |
| Titanium Dioxide       | Ingestion  | Multiple animal species | Not carcinogenic   |
| Titanium Dioxide       | Inhalation | Rat                     | Carcinogenic   |

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------|-------|-------|---------|-------------|-------------------|
|      |       |       |         |             |                   |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------|-------|-----------------|-------|---------|-------------|-------------------|
|      |       |                 |       |         |             |                   |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure |
|------|-------|-----------------|-------|---------|-------------|----------|
|      |       |                 |       |         |             |          |



|                        |            |                    |  |                   |                     | Duration              |
|------------------------|------------|--------------------|--|-------------------|---------------------|-----------------------|
| SILANE TREATED CERAMIC | Inhalation | pulmonary fibrosis | Some positive data exist, but the data are not sufficient for classification | similar compounds | NOAEL Not available |                       |
| Titanium Dioxide       | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat               | LOAEL 0.010 mg/l    | 2 years               |
| Titanium Dioxide       | Inhalation | pulmonary fibrosis | All data are negative  | Human             | NOAEL Not available | occupational exposure |

**Aspiration Hazard**

| Name | Value |
|------|-------|
|      |       |

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> 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):**

| <u>Ingredient (Category if applicable)</u> | <u>C.A.S. No</u> | <u>Regulation</u>  | <u>Status</u> |
|--|------------------|--|---------------|
| BENZOTRIAZOL                               | 96478-09-0       | Toxic Substances Control Act (TSCA) 5<br>SNUR or Consent Order Chemicals | Applicable    |

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

| <u>Ingredient (Category if applicable)</u> | <u>C.A.S. No</u> | <u>Reference</u> |
|--|------------------|------------------|
| 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: 2 Flammability: 1 Instability: 0 Special Hazards: 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.

|                        |           |                         |          |
|------------------------|-----------|-------------------------|----------|
| <b>Document Group:</b> | 33-1594-2 | <b>Version Number:</b>  | 2.00     |
| <b>Issue Date:</b>     | 07/07/14  | <b>Supersedes Date:</b> | 03/10/14 |

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3M USA SDSs are available at [www.3M.com](http://www.3M.com)



## Safety Data Sheet

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|                        |           |                         |          |
|------------------------|-----------|-------------------------|----------|
| <b>Document Group:</b> | 33-1594-2 | <b>Version Number:</b>  | 6.00     |
| <b>Issue Date:</b>     | 03/22/16  | <b>Supersedes Date:</b> | 02/25/16 |

### 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

|                      |   |
|----------------------|---|
| <b>MANUFACTURER:</b> | 3M                                      |
| <b>DIVISION:</b>     | Oral Care Solutions Division            |
| <b>ADDRESS:</b>      | 3M Center, St. Paul, MN 55144-1000, USA |
| <b>Telephone:</b>    | 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:**

Wear protective gloves.

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.

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

| Ingredient                             | C.A.S. No.   | % by Wt                |
|--|--------------|------------------------|
| SILANE TREATED CERAMIC                 | 444758-98-9  | 60 - 70 Trade Secret * |
| AROMATIC URETHANE DIMETHACRYLATE       | 1431303-59-1 | 10 - 20 Trade Secret * |
| YTTERBIUM FLUORIDE (YbF <sub>3</sub> ) | 13760-80-0   | 1 - 10 Trade Secret *  |
| DIURETHANE DIMETHACRYLATE (UDMA)       | 72869-86-4   | 1 - 10 Trade Secret *  |
| SILANE TREATED SILICA                  | 248596-91-0  | 1 - 10 Trade Secret *  |
| 1,12-DODECANE DIMETHYCRYLATE (DDDMA)   | 72829-09-5   | < 5 Trade Secret *     |
| SILANE TREATED ZIRCONIA                | Unknown      | < 5 Trade Secret *     |
| WATER                                  | 7732-18-5    | < 5 Trade Secret *     |
| MODIFIED METHACRYLATE MONOMER          | 1429648-13-4 | < 1 Trade Secret *     |
| ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB) | 10287-53-3   | < 0.5 Trade Secret *   |
| BENZOTRIAZOL                           | 96478-09-0   | < 0.5 Trade Secret *   |

\*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**

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

**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**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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**

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**

Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Do not get in eyes. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-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

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type                                 | Additional Comments            |
|------------|------------|--------|--|--------------------------------|
| FLUORIDES  | 13760-80-0 | ACGIH  | TWA(as F):2.5 mg/m3                        | A4: Not class. as human carcin |
| FLUORIDES  | 13760-80-0 | OSHA   | TWA(as dust):2.5 mg/m3;TWA(as F):2.5 mg/m3 |                                |

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 in a well-ventilated area.

#### 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

None required.

## SECTION 9: Physical and chemical properties

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

|                                  |                                     |
|----------------------------------|-------------------------------------|
| <b>General Physical Form:</b>    | Solid                               |
| <b>Specific Physical Form:</b>   | Paste                               |
| <b>Odor, Color, Grade:</b>       | Slight acrylate odor, tooth colored |
| <b>Odor threshold</b>            | <i>No Data Available</i>            |
| <b>pH</b>                        | <i>Not Applicable</i>               |
| <b>Melting point</b>             | <i>No Data Available</i>            |
| <b>Boiling Point</b>             | <i>Not Applicable</i>               |
| <b>Flash Point</b>               | No flash point                      |
| <b>Evaporation rate</b>          | <i>Not Applicable</i>               |
| <b>Flammability (solid, gas)</b> | Not Classified                      |
| <b>Flammable Limits(LEL)</b>     | <i>Not Applicable</i>               |

|   |                          |
|---|--------------------------|
| Flammable Limits(UEL)                       | <i>Not Applicable</i>    |
| Vapor Pressure                              | <i>Not Applicable</i>    |
| Vapor Density                               | <i>Not Applicable</i>    |
| Density                                     | 1.9 g/cm <sup>3</sup>    |
| Specific Gravity                            | 1.9 [Ref Std: WATER=1]   |
| Solubility in Water                         | Negligible               |
| Solubility- non-water                       | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water     | <i>Not Applicable</i>    |
| Autoignition temperature                    | <i>No Data Available</i> |
| Decomposition temperature                   | <i>No Data Available</i> |
| Viscosity                                   | <i>No Data Available</i> |
| Molecular weight                            | <i>No Data Available</i> |
| Volatile Organic Compounds                  | <i>No Data Available</i> |
| Percent volatile                            | <i>No Data Available</i> |
| VOC Less H <sub>2</sub> O & Exempt Solvents | <i>No Data Available</i> |

## 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

#### Substance

None known.

#### Condition

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:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

### 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:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

## 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

| Name                                    | Route     | Species               | Value                                    |
|---|-----------|-----------------------|--|
| Overall product                         | Dermal    | Professional judgment | LD50 not applicable                      |
| Overall product                         | Ingestion | Rat                   | LD50 > 2,000 mg/kg                       |
| SILANE TREATED CERAMIC                  | Dermal    |                       | LD50 estimated to be > 5,000 mg/kg       |
| SILANE TREATED CERAMIC                  | Ingestion |                       | LD50 estimated to be 2,000 - 5,000 mg/kg |
| YTTERBIUM FLUORIDE (YbF3)               | Dermal    | Professional judgment | LD50 estimated to be > 5,000 mg/kg       |
| YTTERBIUM FLUORIDE (YbF3)               | Ingestion | Rat                   | LD50 > 5,000 mg/kg                       |
| DIURETHANE DIMETHACRYLATE (UDMA)        | Dermal    | Professional judgment | LD50 estimated to be > 5,000 mg/kg       |
| DIURETHANE DIMETHACRYLATE (UDMA)        | Ingestion | Rat                   | LD50 > 5,000 mg/kg                       |
| SILANE TREATED SILICA                   | Dermal    |                       | LD50 estimated to be > 5,000 mg/kg       |
| SILANE TREATED SILICA                   | Ingestion |                       | LD50 estimated to be > 5,000 mg/kg       |
| 1,12-DODECANE DIMETHACRYLATE (DDDMA)    | Dermal    | Professional judgment | LD50 estimated to be 2,000 - 5,000 mg/kg |
| 1,12-DODECANE DIMETHACRYLATE (DDDMA)    | Ingestion | similar compounds     | LD50 2000-5000 mg/kg                     |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Dermal    | Rat                   | LD50 > 2,000 mg/kg                       |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Ingestion | Rat                   | LD50 > 2,000 mg/kg                       |

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

| Name                   | Species           | Value                     |
|------------------------|-------------------|---------------------------|
| SILANE TREATED CERAMIC | similar compounds | No significant irritation |
| SILANE TREATED SILICA  | Professional      | No significant irritation |



|   |                      |                           |
|---|----------------------|---------------------------|
|   | nal<br>judgeme<br>nt |                           |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Rabbit               | No significant irritation |

**Serious Eye Damage/Irritation**

| Name                                    | Species               | Value                     |
|---|-----------------------|---------------------------|
| SILANE TREATED CERAMIC                  | similar compounds     | Mild irritant             |
| YTTERBIUM FLUORIDE (YbF3)               | Professional judgment | Mild irritant             |
| SILANE TREATED SILICA                   | Professional judgment | No significant irritation |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Rabbit                | Mild irritant             |

**Skin Sensitization**

| Name                          | Species           | Value  |
|-------------------------------|-------------------|--|
| SILANE TREATED CERAMIC        | similar compounds | Some positive data exist, but the data are not sufficient for classification |
| MODIFIED METHACRYLATE MONOMER | similar compounds | Some positive data exist, but the data are not sufficient for classification |

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Carcinogenicity**

| Name                   | Route      | Species           | Value  |
|------------------------|------------|-------------------|--|
| SILANE TREATED CERAMIC | Inhalation | similar compounds | Some positive data exist, but the data are not sufficient for classification |

**Reproductive Toxicity****Reproductive and/or Developmental Effects**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Specific Target Organ Toxicity - repeated exposure**

| Name                   | Route      | Target Organ(s)    | Value  | Species           | Test Result         | Exposure Duration |
|------------------------|------------|--------------------|--|-------------------|---------------------|-------------------|
| SILANE TREATED CERAMIC | Inhalation | pulmonary fibrosis | Some positive data exist, but the data are not sufficient for classification | similar compounds | NOAEL Not available |                   |

**Aspiration Hazard**

For the component/components, either no data are currently available or the data are not sufficient for classification.

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.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

EPA Hazardous Waste Number (RCRA): Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit <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]:

| <u>Ingredient (Category if applicable)</u> | <u>C.A.S. No</u> | <u>Regulation</u>  | <u>Status</u> |
|--|------------------|--|---------------|
| BENZOTRIAZOL                               | 96478-09-0       | Toxic Substances Control Act (TSCA) 5<br>SNUR or Consent Order Chemicals | Applicable    |

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

| <u>Ingredient (Category if applicable)</u> | <u>C.A.S. No</u> | <u>Reference</u> |
|--|------------------|------------------|
| 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:** 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** 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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