

## **SAFETY DATA SHEETS**

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

075825344

**The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).**

075825310 075825328 075825336 075825351 075825369 075825377 075825385 075825393 075825401 075825419

**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).**

075825286



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** 3M™ ESPE™ PROTEMP™ CROWN  
**MANUFACTURER:** 3M  
**DIVISION:** 3M ESPE Dental Products

**ADDRESS:** 3M Center, St. Paul, MN 55144-1000

**EMERGENCY PHONE:** 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 04/24/13  
**Supersedes Date:** 05/14/09

**Document Group:** 21-2032-7

#### Product Use:

**Intended Use:** Dental product  
**Limitations on Use:** For use only by dental professionals.  
**Specific Use:** Temporization material.

### SECTION 2: INGREDIENTS

| <u>Ingredient</u>                                    | <u>C.A.S. No.</u> | <u>% by Wt</u> |
|--|-------------------|----------------|
| SILANE TREATED CERAMIC                               | 444758-98-9       | 70 - 80        |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2         | 5 - 15         |
| FUNCTIONALIZED DIMETHACRYLATE POLYMER                | None              | 1 - 10         |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | 112945-52-5       | 1 - 10         |
| WATER  | 7732-18-5         | < 5            |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | 109-16-0          | < 1            |

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Specific Physical Form:** Paste

**Odor, Color, Grade:** Characteristic odor, Opaque, off-white paste

**General Physical Form:** Solid

**Immediate health, physical, and environmental hazards:** May cause allergic skin reaction. 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.

## 3.2 POTENTIAL HEALTH EFFECTS

### Eye Contact:

Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

### Skin Contact:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

### Inhalation:

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

### Ingestion:

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

## SECTION 4: FIRST AID MEASURES

### 4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

Autoignition temperature

*No Data Available*

Flash Point

*Not Applicable*

Flammable Limits(LEL)

*Not Applicable*

Flammable Limits(UEL)

*Not Applicable*

### 5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** No unusual fire or explosion hazards are anticipated.

**Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.**

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel.

### 6.2. Environmental precautions

Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

### Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

Avoid eye contact. Avoid skin contact. Wash hands after handling and before eating. If skin contact occurs, wash skin with soap and water. Use of protective gloves is recommended; however, acrylates may penetrate commonly-used gloves. After product placement, remove and discard gloves, wash hands immediately with soap and water, and then re-glove.

### 7.2 STORAGE

Store out of direct sunlight. Store in a cool, dry place.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation.

### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### 8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields

.

#### 8.2.2 Skin Protection

Avoid skin contact. See Section 7.1 for additional information on skin protection.

#### 8.2.3 Respiratory Protection

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

#### 8.2.4 Prevention of Swallowing

Do not ingest. Wash hands after handling and before eating.

### 8.3 EXPOSURE GUIDELINES

None Established

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

|                                |  |
|--------------------------------|--|
| Specific Physical Form:        | Paste  |
| Odor, Color, Grade:            | Characteristic odor, Opaque, off-white paste |
| General Physical Form:         | Solid  |
| Autoignition temperature       | No Data Available                            |
| Flash Point                    | Not Applicable                               |
| Flammable Limits(LEL)          | Not Applicable                               |
| Flammable Limits(UEL)          | Not Applicable                               |
| Boiling Point                  | Not Applicable                               |
| Density                        | 1.5 g/cm3                                    |
| Vapor Density                  | Not Applicable                               |
| Vapor Pressure                 | Not Applicable                               |
| Specific Gravity               | 1.5 [Ref Std: WATER=1]                       |
| pH                             | Not Applicable                               |
| Melting point                  | No Data Available                            |
| Solubility in Water            | Negligible                                   |
| Evaporation rate               | No Data Available                            |
| Kow - Oct/Water partition coef | No Data Available                            |
| Viscosity                      | No Data Available                            |

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable.

### Materials and Conditions to Avoid:

#### 10.1 Conditions to avoid

Light

#### 10.2 Materials to avoid

Not determined

**Hazardous Polymerization:** Hazardous polymerization will not occur.

### Hazardous Decomposition or By-Products

#### Substance

Carbon monoxide  
Carbon dioxide

#### Condition

During Combustion  
During Combustion

## SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

Not determined.

### CHEMICAL FATE INFORMATION

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose of completely cured (or polymerized) wastes in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility.

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

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14: TRANSPORT INFORMATION

### ID Number(s):

70-2010-5121-9, 70-2010-5122-7, 70-2010-5123-5, 70-2010-5124-3, 70-2010-5125-0, 70-2010-5126-8, 70-2010-5127-6, 70-2010-5128-4, 70-2010-5129-2, 70-2010-5130-0, 70-2010-5167-2, 70-2010-5194-6, 70-2010-5247-2, 70-2010-5248-0, 70-2010-5249-8, 70-2010-5328-0, 70-2010-5478-3, 70-2010-5595-4

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

## SECTION 15: REGULATORY INFORMATION

### 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

### STATE REGULATIONS

Contact 3M for more information.

### 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.

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

## INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS 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 Reactivity: 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.

**Reason for Reissue:** Added/Deleted stock numbers.

#### Revision Changes:

Section 1: Product use information was modified.  
Section 16: Disclaimer (second paragraph) was modified.  
Section 3: Potential effects from skin contact information was modified.  
Section 7: Handling information was modified.  
Section 8: Engineering controls information was modified.  
Section 10: Hazardous decomposition or by-products table was modified.  
Section 8: Eye/face protection information was modified.  
Section 14: Transportation legal text was modified.  
Section 9: Density information was modified.  
Section 9: Boiling point information was modified.  
Section 5: Flammable limits (UE) information was modified.  
Section 5: Flammable limits (LEL) information was modified.  
Section 5: Autoignition temperature information was modified.  
Section 9: Vapor density text was modified.  
Section 9: Vapor pressure text was modified.  
Section 5: Flash point information was modified.  
Section 9: Specific gravity information was modified.  
Section 9: pH information was modified.  
Section 9: Melting point information was modified.  
Section 9: Solubility in water text was modified.  
Section 9: Flash point information was modified.  
Section 9: Flammable limits (LEL) information was modified.  
Section 9: Flammable limits (UEL) information was modified.  
Section 9: Autoignition temperature information was modified.  
Section 2: Ingredient table was modified.  
Section 7: Handling comment was added.  
Section 9: Property description for optional properties was added.  
Section 6: 6.2. Environmental precautions heading was added.  
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.  
Section 10.1 Conditions to avoid heading was added.  
Section 10.2 Materials to avoid heading was added.  
Section 16: Web address was added.  
Section 6: Personal precautions information was added.  
Section 6: Environmental procedures information was added.  
Section 6: Methods for cleaning up information was added.  
Section 10: Materials to avoid physical property was added.

Section 10: Conditions to avoid physical property was added.

Section 1: Address was added.

Copyright was added.

Company logo was added.

Section 6: Clean-up methods heading was added.

Telephone header was added.

Company Telephone was added.

Section 1: Emergency phone information was added.

Section 1: Emergency phone information was deleted.

Company Logo was deleted.

Copyright was deleted.

Section 16: Web address heading was deleted.

Section 6: Release measures information was deleted.

Section 6: Release measures heading was deleted.

Section 10: Materials and conditions to avoid physical property was deleted.

Section 1: Address line 1 was deleted.

Section 1: Address line 2 was deleted.

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|                        |           |                         |          |
|------------------------|-----------|-------------------------|----------|
| <b>Document Group:</b> | 21-2032-7 | <b>Version Number:</b>  | 12.00    |
| <b>Issue Date:</b>     | 11/24/14  | <b>Supersedes Date:</b> | 09/11/13 |

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ ESPE™ PROTEMP™ CROWN

#### Product Identification Numbers

70-2010-5121-9, 70-2010-5122-7, 70-2010-5123-5, 70-2010-5124-3, 70-2010-5125-0, 70-2010-5126-8, 70-2010-5127-6, 70-2010-5128-4, 70-2010-5129-2, 70-2010-5130-0, 70-2010-5167-2, 70-2010-5194-6, 70-2010-5247-2, 70-2010-5248-0, 70-2010-5249-8, 70-2010-5328-0, 70-2010-5478-3, 70-2010-5595-4

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Dental product, Temporization material.

##### Restrictions on use

For use only by dental professionals.

#### 1.3. Supplier's details

|                      |   |
|----------------------|---|
| <b>MANUFACTURER:</b> | 3M                                      |
| <b>DIVISION:</b>     | 3M ESPE Dental Products                 |
| <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

Acute Toxicity (oral): Category 4.

Skin Sensitizer: Category 1B.

#### 2.2. Label elements

##### Signal word

Warning

**Symbols**

Exclamation mark |

**Pictograms****Hazard Statements**

Harmful if swallowed.

May cause an allergic skin reaction.

**Precautionary Statements****Prevention:**

Wear protective gloves.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

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.

Rinse mouth.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**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**

| <b>Ingredient</b>                                       | <b>C.A.S. No.</b> | <b>% by Wt</b>         |
|---|-------------------|------------------------|
| SILANE TREATED CERAMIC                                  | 444758-98-9       | 70 - 80 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER<br>DIMETHACRYLATE (BISGMA) | 1565-94-2         | 5 - 15 Trade Secret *  |
| FUNCTIONALIZED DIMETHACRYLATE<br>POLYMER                | None              | 1 - 10 Trade Secret *  |
| SYNTHETIC AMORPHOUS SILICA, FUMED,<br>CRYSTALLINE FREE  | 112945-52-5       | 1 - 10 Trade Secret *  |
| WATER   | 7732-18-5         | < 5 Trade Secret *     |
| TRIETHYLENE GLYCOL DIMETHACRYLATE<br>(TEGDMA)           | 109-16-0          | < 1 Trade Secret *     |
| BENZOTRIAZOL  | 96478-09-0        | < 0.5 Trade Secret *   |
| ETHYL 4-DIMETHYL AMINOBENZOATE<br>(EDMAB)               | 10287-53-3        | < 0.5 Trade Secret *   |
| DIPHENYLIODONIUM<br>HEXAFLUOROPHOSPHATE                 | 58109-40-3        | < 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:

No need for first aid is anticipated.

#### 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

| <u>Substance</u> | <u>Condition</u>  |
|------------------|-------------------|
| Carbon monoxide  | During Combustion |
| Carbon dioxide   | 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

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 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. Wash contaminated clothing before reuse. 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

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

### 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

|                           |  |
|---------------------------|--|
| General Physical Form:    | Solid  |
| Specific Physical Form:   | Paste  |
| Odor, Color, Grade:       | Characteristic odor, Opaque, off-white paste |
| Odor threshold            | No Data Available                            |
| pH                        | Not Applicable                               |
| Melting point             | No Data Available                            |
| Boiling Point             | Not Applicable                               |
| Flash Point               | Not Applicable                               |
| Evaporation rate          | No Data Available                            |
| Flammability (solid, gas) | Not Classified                               |
| Flammable Limits(LEL)     | Not Applicable                               |
| Flammable Limits(UEL)     | Not Applicable                               |

|   |                          |
|---|--------------------------|
| Vapor Pressure                          | <i>Not Applicable</i>    |
| Vapor Density                           | <i>Not Applicable</i>    |
| Density                                 | 1.5 g/cm <sup>3</sup>    |
| Specific Gravity                        | 1.5 [Ref Std: WATER=1]   |
| Solubility in Water                     | Negligible               |
| Solubility- non-water                   | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature                | <i>No Data Available</i> |
| Decomposition temperature               | <i>No Data Available</i> |
| Viscosity                               | <i>No Data Available</i> |
| Percent volatile                        | <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

Light

### 10.5. Incompatible materials

Not determined

### 10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| None known.      |                  |

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:**

Harmful if swallowed. 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                                      | Ingestion                      |                       | No data available; calculated ATE 300 - 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            |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion                      |                       | LD50 estimated to be 2,000 - 5,000 mg/kg            |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Dermal                         | Professional judgment | LD50 estimated to be 2,000 - 5,000 mg/kg            |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Dermal                         | Rabbit                | LD50 > 5,000 mg/kg                                  |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Inhalation-Dust/Mist (4 hours) | Rat                   | LC50 > 0.691 mg/l                                   |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Ingestion                      | Rat                   | LD50 > 5,110 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                                  |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE                 | Ingestion                      | Rat                   | LD50 32 mg/kg                                       |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Dermal                         | Professional judgment | LD50 estimated to be > 5,000 mg/kg                  |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Ingestion                      | Rat                   | LD50 10,837 mg/kg                                   |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name   | Species           | Value                     |
|--|-------------------|---------------------------|
| SILANE TREATED CERAMIC                               | similar compounds | No significant irritation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available     | Minimal irritation        |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Rabbit            | No significant irritation |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB)              | Rabbit            | No significant irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE                 | Rabbit            | No significant irritation |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Guinea pig        | Mild irritant             |

**Serious Eye Damage/Irritation**

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

|  |                        |                           |
|--|------------------------|---------------------------|
| SILANE TREATED CERAMIC                               | similar compounds      | Mild irritant             |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available          | Moderate irritant         |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Rabbit                 | No significant irritation |
| ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB)               | Rabbit                 | Mild irritant             |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE                 | Rabbit                 | Mild irritant             |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Professional judgement | Moderate irritant         |

### Skin Sensitization

| Name   | Species           | Value  |
|--|-------------------|--|
| SILANE TREATED CERAMIC                               | similar compounds | Some positive data exist, but the data are not sufficient for classification |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Guinea pig        | Sensitizing  |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Human and animal  | Not sensitizing  |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Human and animal  | Sensitizing  |

### Respiratory Sensitization

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

### Germ Cell Mutagenicity

| Name   | Route    | Value  |
|--|----------|--|
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | In Vitro | Not mutagenic  |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE                 | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | In Vitro | Some positive data exist, but 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 |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Not Specified | Mouse             | Some positive data exist, but the data are not sufficient for classification |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)          | Dermal        | Mouse             | Not carcinogenic   |

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

| Name   | Route     | Value                            | Species | Test Result         | Exposure Duration            |
|--|-----------|----------------------------------|---------|---------------------|------------------------------|
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not toxic to female reproduction | Mouse   | NOAEL 0.8 mg/kg/day | premating & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not toxic to male reproduction   | Mouse   | NOAEL 0.8 mg/kg/day | premating & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not toxic to development         | Mouse   | NOAEL 0.8 mg/kg/day | premating & during gestation |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Ingestion | Not toxic to female reproduction | Rat     | NOAEL 509 mg/kg/day | 1 generation                 |

|   |           |                                  |       |                       |                      |
|---|-----------|----------------------------------|-------|-----------------------|----------------------|
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Ingestion | Not toxic to male reproduction   | Rat   | NOAEL 497 mg/kg/day   | 1 generation         |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Ingestion | Not toxic to development         | Rat   | NOAEL 1,350 mg/kg/day | during organogenesis |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)          | Ingestion | Not toxic to female reproduction | Mouse | NOAEL 1 mg/kg/day     | 1 generation         |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)          | Ingestion | Not toxic to male reproduction   | Mouse | NOAEL 1 mg/kg/day     | 1 generation         |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)          | Ingestion | Not toxic to development         | Mouse | NOAEL 1 mg/kg/day     | 1 generation         |

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

| Name                                 | Route      | Target Organ(s)        | Value  | Species       | Test Result          | Exposure Duration |
|--------------------------------------|------------|------------------------|--|---------------|----------------------|-------------------|
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Not available | Irritation Equivocal |                   |

**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 |                                |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion  | endocrine system   liver   nervous system   kidney and/or bladder | All data are negative  | Mouse             | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE  | Inhalation | respiratory system   silicosis                                    | All data are negative  | Human             | NOAEL Not available | occupational exposure          |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Dermal     | kidney and/or bladder   | Some positive data exist, but the data are not sufficient for classification | Mouse             | NOAEL 833 mg/kg/day | 78 weeks                       |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)           | Dermal     | blood   | All data are negative  | Mouse             | NOAEL 833 mg/kg/day | 78 weeks                       |

**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.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

**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

### 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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