

SAFETY DATA SHEETS

This SDS packet was issued with item:

075022751

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

075022603 075022744

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).

0750020750 075014907 075022611 075022629 075022637 075022645 075022652 075022660 075022678 075022686
075022694 075022702 075022710 075022728 075022736 075022769 075022777 075022785 075022918 075022926
075022934 075022942 075022959 075022967 075022975 075022991 075023007 075023015 075023031 075023049
075023056 075023064 075023072 075023213 075023239 075023262 075023288 075023296 075023304 075023312
075023320 075023346 075023353 075023361 075023379 075023395 075023403 075023411 075023429 075023437
075023510 075023528



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 6028/ 6029/ 5916 3M™ ESPE™ FILTEK™ SUPREME ULTRA UNIVERSAL RESTORATIVE
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: 05/20/13
Supercedes Date: 12/30/10

Document Group: 26-5783-1

Product Use:

Intended Use: Dental Product
Limitations on Use: For use only by dental professionals
Specific Use: Dental Restorative

SECTION 2: INGREDIENTS

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>% by Wt</u> |
|--------------------------------------------------------|-------------------|----------------|
| SILANE TREATED CERAMIC | 444758-98-9 | 60 - 80 |
| SILANE TREATED SILICA | 248596-91-0 | 1 - 10 |
| DIURETHANE DIMETHACRYLATE (UDMA) | 72869-86-4 | 1 - 10 |
| BISPHENOL A POLYETHYLENE GLYCOL DIETHER DIMETHACRYLATE | 41637-38-1 | 1 - 10 |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | 1 - 10 |
| SILANE TREATED ZIRCONIA | Unknown | 1 - 10 |
| POLYETHYLENE GLYCOL DIMETHACRYLATE | 25852-47-5 | < 5 |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | 109-16-0 | < 5 |
| 2,6-DI-TERT-BUTYL-P-CRESOL | 128-37-0 | < 0.5 |

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Slight acrylate odor, Tooth colored

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

No flash point

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. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

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. Clean up residue.

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. 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. Wash hands after handling and before eating.

7.2 STORAGE

Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Not applicable. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Do not use in a confined area or areas with little or no air movement.

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. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. 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. Avoid breathing of dust created by cutting, sanding, grinding or machining.

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

| <u>Ingredient</u> | <u>Authority</u> | <u>Type</u> | <u>Limit</u> | <u>Additional Information</u> |
|----------------------------|------------------|-----------------------------------|---------------------|-------------------------------|
| 2,6-DI-TERT-BUTYL-P-CRESOL | ACGIH | TWA, inhalable fraction and vapor | 2 mg/m ³ | |

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------------------------------|-------------------------------------|
| Specific Physical Form: | Paste |
| Odor, Color, Grade: | Slight acrylate odor, Tooth colored |
| General Physical Form: | Solid |
| Autoignition temperature | <i>No Data Available</i> |
| Flash Point | No flash point |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Boiling Point | <i>Not Applicable</i> |
| Density | 1.9 g/cm ³ |
| Vapor Density | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Specific Gravity | 1.9 [<i>Ref Std: WATER=1</i>] |
| pH | <i>Not Applicable</i> |
| Melting point | <i>No Data Available</i> |
| Solubility In Water | <i>No Data Available</i> |
| Evaporation rate | <i>Not Applicable</i> |
| Volatile Organic Compounds | <i>Not Applicable</i> |
| Kow - Oct/Water partition coef | <i>Not Applicable</i> |
| VOC Less H₂O & Exempt Solvents | <i>Not Applicable</i> |
| Viscosity | <i>No Data Available</i> |

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat

10.2 Materials to avoid

Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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 uncured product in an industrial or commercial incinerator in the presence of a combustible material.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LE-F100-0683-6, 70-2010-5780-2, 70-2010-5781-0, 70-2010-5791-9, 70-2010-5792-7, 70-2010-5793-5, 70-2010-5794-3, 70-2010-5795-0, 70-2010-5796-8, 70-2010-5797-6, 70-2010-5798-4, 70-2010-5799-2, 70-2010-5800-8, 70-2010-5801-6, 70-2010-5802-4, 70-2010-5803-2, 70-2010-5804-0, 70-2010-5805-7, 70-2010-5806-5, 70-2010-5807-3, 70-2010-5808-1, 70-2010-5809-9, 70-2010-5810-7, 70-2010-5811-5, 70-2010-5812-3, 70-2010-5813-1, 70-2010-5814-9, 70-2010-5815-6, 70-2010-5816-4, 70-2010-5817-2, 70-2010-5818-0, 70-2010-5819-8, 70-2010-5820-6, 70-2010-5821-4, 70-2010-5822-2, 70-2010-5823-0, 70-2010-5824-8, 70-2010-5825-5, 70-2010-5828-9, 70-2010-5829-7, 70-2010-5830-5, 70-2010-5831-3, 70-2010-5832-1, 70-2010-5833-9, 70-2010-5834-7, 70-2010-5835-4, 70-2010-5836-2, 70-2010-5837-0, 70-2010-5838-8, 70-2010-5839-6, 70-2010-5840-4, 70-2010-5841-2, 70-2010-5842-0, 70-2010-5843-8, 70-2010-5844-6, 70-2010-5845-3, 70-2010-5846-1, 70-2010-5847-9, 70-2010-5848-7, 70-2010-5849-5, 70-2010-5850-3, 70-2010-5851-1, 70-2010-5852-9, 70-2010-5853-7, 70-2010-5854-5, 70-2010-5855-2, 70-2010-5856-0, 70-2010-5857-8, 70-2010-5858-6, 70-2010-5859-4, 70-2010-5860-2, 70-2010-5861-0, 70-2010-5862-8, 70-2010-5863-6, 70-2010-7731-3, 70-2010-7732-1, 70-2010-7733-9, 70-2010-7734-7, 70-2010-7735-4, 70-2010-7736-2, 70-2010-7737-0, 70-2010-7738-8, 70-2010-7741-2, 70-2010-7742-0, 70-2010-8997-9, 70-2010-8998-7, 70-2010-8999-5, 70-2010-9400-3

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.

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.

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 8: Respiratory protection information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 9: Density information was modified.
Section 9: Vapor density value was modified.
Section 9: Vapor pressure value 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 5: Flash point information was modified.
Section 9: Property description for optional properties 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 value 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 14: ID Number(s) Template 1 was modified.
Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 16: Web address was added.
Section 8: Hand protection information was added.
Section 1: Address was added.
Copyright was added.
Company logo 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 1: Address line 1 was deleted.
Section 1: Address line 2 was deleted.

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3M USA MSDSs are available at www.3M.com



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|------------------------|-----------|-------------------------|----------|
| Document Group: | 26-5783-1 | Version Number: | 6.05 |
| Issue Date: | 07/20/22 | Supersedes Date: | 06/23/21 |

SECTION 1: Identification

1.1. Product identifier

3M™ Filtek™ Supreme Ultra Universal Restorative (6028, 6029, 5916)

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: | Oral Care Solutions Division |
| 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.

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.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-------------------------------------------------------------------|-------------|------------------------|
| Silane Treated Ceramic | 444758-98-9 | 60 - 80 Trade Secret * |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | 1565-94-2 | 1 - 10 Trade Secret * |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | 41637-38-1 | 1 - 10 Trade Secret * |
| Diurethane Dimethacrylate (UDMA) | 72869-86-4 | 1 - 10 Trade Secret * |
| Silane Treated Silica | 248596-91-0 | 1 - 10 Trade Secret * |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | 25852-47-5 | < 5 Trade Secret * |
| Silane Treated Zirconia | None | 1 - 5 Trade Secret * |
| Triethylene glycol dimethacrylate | 109-16-0 | < 1 Trade Secret * |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 162881-26-7 | < 0.05 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.

attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

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

Allergic skin reaction (redness, swelling, blistering, and itching).

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

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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 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.

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

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

Appearance

Physical state

Solid

Color

Tooth

Specific Physical Form:

Paste

Odor

Slight Acrylate

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

No Data Available

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 |
| Molecular weight | No Data Available |
| Volatile Organic Compounds | Not Applicable |
| VOC Less H2O & Exempt Solvents | Not Applicable |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

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.

The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

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.

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 |
| Silane Treated Silica | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Silane Treated Silica | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Diurethane Dimethacrylate (UDMA) | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | Dermal | Rat | LD50 > 2,000 mg/kg |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | Ingestion | Rat | LD50 > 35,000 mg/kg |
| Diurethane Dimethacrylate (UDMA) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | Rat | LD50 > 11,700 mg/kg |
| Silane Treated Zirconia | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Silane Treated Zirconia | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Dermal | Rabbit | LD50 15,500 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Ingestion | Rat | LD50 9,400 mg/kg |
| Triethylene glycol dimethacrylate | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Triethylene glycol dimethacrylate | Ingestion | Rat | LD50 10,837 mg/kg |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | Dermal | Rat | LD50 > 2,000 mg/kg |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | 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 judgement | No significant irritation |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | Rabbit | Minimal irritation |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Rabbit | No significant irritation |
| Silane Treated Zirconia | Rabbit | No significant irritation |

| | | |
|----------------------------------------------------|------------|---------------------------|
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Mild irritant |
| Triethylene glycol dimethacrylate | Guinea pig | Mild irritant |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------------------------------------------------------|------------------------|---------------------------|
| Silane Treated Ceramic | similar compounds | Mild irritant |
| Silane Treated Silica | Professional judgement | No significant irritation |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | Rabbit | No significant irritation |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In vitro data | No significant irritation |
| Silane Treated Zirconia | Rabbit | Mild irritant |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Moderate irritant |
| Triethylene glycol dimethacrylate | Professional judgement | Moderate irritant |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|-------------------------------------------------------------------|-------------------|----------------|
| Silane Treated Ceramic | similar compounds | Not classified |
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | Guinea pig | Not classified |
| Diurethane Dimethacrylate (UDMA) | Guinea pig | Sensitizing |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Mouse | Not classified |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Guinea pig | Not classified |
| Triethylene glycol dimethacrylate | Human and animal | Sensitizing |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | Guinea pig | Sensitizing |

Respiratory Sensitization

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

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------------------------------------------------------|----------|------------------------------------------------------------------------------|
| Bisphenol A Polyethylene Glycol Diether Dimethacrylate (BISEMA-6) | In Vitro | Not mutagenic |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In Vitro | Not mutagenic |
| Silane Treated Zirconia | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Triethylene glycol dimethacrylate | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide | In Vitro | 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 |

| | | | |
|-----------------------------------|------------|-------------------------|------------------------------------------------------------------------------|
| Silane Treated Zirconia | Inhalation | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Triethylene glycol dimethacrylate | 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 classified for development | Rat | NOAEL 1,000 mg/kg/day | during gestation |
| Triethylene glycol dimethacrylate | Ingestion | Not classified for female reproduction | Mouse | NOAEL 1 mg/kg/day | 1 generation |
| Triethylene glycol dimethacrylate | Ingestion | Not classified for male reproduction | Mouse | NOAEL 1 mg/kg/day | 1 generation |
| Triethylene glycol dimethacrylate | Ingestion | Not classified for 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 |
|---------------------------------------------|------------|------------------------|------------------------------------------------------------------------------|------------------------|---------------------|-------------------|
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|-----------------------|-----------------------|
| Silane Treated Ceramic | Inhalation | pulmonary fibrosis | Not classified | similar compounds | NOAEL Not available | |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | endocrine system hematopoietic system liver heart skin gastrointestinal tract bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 90 days |
| Silane Treated Zirconia | Inhalation | pulmonary fibrosis | Not classified | Multiple animal species | NOAEL Not available | |
| Silane Treated Zirconia | Inhalation | respiratory system | Not classified | Human | NOAEL Not available | occupational exposure |
| Triethylene glycol dimethacrylate | Dermal | kidney and/or bladder blood | Not classified | Mouse | NOAEL 833 mg/kg/day | 78 weeks |

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 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.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Additional TSCA Information

| Components | CAS No | Additional Information |
|-----------------------|---------------|-----------------------------------|
| Silane Treated Silica | 248596-91-0 | Allowed use(s): Coating additive. |

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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