SAFETY DATA SHEETS

This SDS packet was issued with item:

075017918

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).

075017512 075017520 075017538 075017546 075017553 075017561 075017579 075017587 075017595 075017603 075017611 075017629 075017637 075017645 075017652 075017660 075017827 075017835 075017843 075017850 075017868 075017876 075017884 075017892 075017900 075017926 075017934 075017942 075017959 075017967 075017975 075017983 078547344 078827776 078861459 078908589 079359131 079359134 079359137 079359140 079359143 079359146 079359149 079359152 079359155 079359158 079359161 079359164 079359167 079359170 079359173 079359222 079359225 079359228 079359231 079359234 079359237 079359240 079359243 079359246 079359249 079359252 079359255 079359258 079359261 079359264 273016433 273016434 273016435 273016436 273016438 273016439

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M FILTEK Z250 UNIVERSAL RESTORATIVE PASTE
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: 08/22/13
Supercedes Date: 05/13/09

Document Group: 08-2286-6

Product Use:

Intended Use:	Dental product
Limitations on Use:	For use only by dental professionals
Specific Use:	Dental restorative

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
SILANE TREATED CERAMIC	444758-98-9	75 - 85
BISPHENOL A POLYETHYLENE GLYCOL DIETHER DIMETHACRYLATE (BISEMA6)	41637-38-1	1 - 10
DIURETHANE DIMETHACRYLATE (UDMA)	72869-86-4	1 - 10
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	1565-94-2	1 - 10
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	109-16-0	< 5
BENZOTRIAZOL	96478-09-0	< 0.5
ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB)	10287-53-3	< 0.2

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste
Odor, Color, Grade: Slight acrylate odor, various shades
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:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, 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
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

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.

6.2. Environmental precautions
Collect the resulting residue containing solution. 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. Wash hands after handling and before eating. 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.

7.2 STORAGE
Store away from areas where product may come into contact with food or pharmaceuticals. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Not applicable.

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:	Slight acrylate odor, various shades
General Physical Form:	Solid
Autoignition temperature	*No Data Available*
Flash Point	No flash point
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Boiling Point	*Not Applicable*
Density	2.1 g/cm3
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*
Specific Gravity	2.1 [*Ref Std:* WATER=1]
pH	*Not Applicable*
Melting point	*No Data Available*
Solubility in Water	Negligible
Evaporation rate	*Not Applicable*
Volatile Organic Compounds	*No Data Available*
Kow - Oct/Water partition coef	*Not Applicable*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*
Viscosity	Approximately 300000 centipoise

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:
10.1 Conditions to avoid
None known

10.2 Materials to avoid
None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
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 waste product in a sanitary landfill. Incinerate in an industrial or commercial facility in the presence of a combustible material. As a disposal alternative, incinerate in an industrial or commercial facility. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

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-F100-0078-3, 70-2010-2225-1, 70-2010-2226-9, 70-2010-2227-7, 70-2010-2228-5, 70-2010-2229-3, 70-2010-2231-9, 70-2010-2232-7, 70-2010-2233-5, 70-2010-2234-3, 70-2010-2237-6, 70-2010-2238-4, 70-2010-2241-8, 70-2010-2242-6, 70-2010-2243-4, 70-2010-2244-2, 70-2010-2245-9, 70-2010-2247-5, 70-2010-2248-3, 70-2010-2249-1, 70-2010-2250-9, 70-2010-2253-3, 70-2010-2254-1, 70-2010-2259-0, 70-2010-2260-8, 70-2010-2564-3, 70-2010-2565-0, 70-2010-2566-8, 70-2010-2567-6, 70-2010-2568-4, 70-2010-2570-0, 70-2010-2571-8, 70-2010-2572-6, 70-2010-2573-4, 70-2010-2576-7, 70-2010-2577-5, 70-2010-2578-3, 70-2010-2585-8, 70-2010-2586-6, 70-2010-2587-4, 70-2010-2588-2, 70-2010-2589-0, 70-2010-2591-6, 70-2010-2592-4, 70-2010-2593-2, 70-2010-2594-0, 70-2010-2597-3, 70-2010-2598-1, 70-2010-2599-9, 70-2010-2712-8, 70-2010-2723-5, 70-2010-2724-3, 70-2010-2725-0, 70-2010-2726-8, 70-2010-3195-5, 70-2010-3196-3, 70-2010-3197-1, 70-2010-3198-9, 70-2010-3200-3, 70-2010-3201-1, 70-2010-3202-9, 70-2010-3203-7, 70-2010-3788-7, 70-2010-5064-1, 70-2010-5200-1, 70-2010-5201-9, 70-2010-5202-7, 70-2010-5203-5, 70-2010-5204-3, 70-2010-5206-8, 70-2010-5207-6, 70-2010-5208-4, 70-2010-5209-2, 70-2010-5212-6, 70-2010-5213-4, 70-2010-5214-2, 70-2010-5215-9, 70-2010-5216-7, 70-2010-5217-5, 70-2010-5218-3, 70-2010-5219-1, 70-2010-5565-7

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 information was modified.
Section 16: Disclaimer (second paragraph) information was modified.
Section 7: Handling information information was modified.
Section 7: Storage information information was modified.
Section 10: Hazardous decomposition or by-products table information was modified.
Section 13: Waste disposal method information information was modified.
Section 8: Eye/face protection information information was modified.
Section 14: Transportation legal text information was modified.
Section 9: Density information information was modified.
Section 9: Vapor density value information was modified.
Section 9: Vapor pressure value information was modified.
Section 9: Boiling point information information was modified.
Section 5: Flammable limits (UE) information information was modified.
Section 5: Flammable limits (LEL) information information was modified.
Section 5: Autoignition temperature information information was modified.
Section 5: Flash point information information was modified.
Section 9: Property description for optional properties information was modified.
Section 9: Specific gravity information information was modified.
Section 9: pH information information was modified.
Section 9: Melting point information information was modified.
Section 9: Solubility in water text information was modified.
Section 9: Flash point information information was modified.
Section 9: Flammable limits (LEL) information information was modified.
Section 9: Flammable limits (UEL) information information was modified.
Section 9: Autoignition temperature information information was modified.

Section 14: ID Number(s) Template 1 information was modified.
Section 2: Ingredient table information was modified.
Section 6: 6.2. Environmental precautions heading information was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading information was added.
Section 10.1 Conditions to avoid heading information was added.
Section 10.2 Materials to avoid heading information was added.
Section 16: Web address information was added.
Section 6: Personal precautions information information was added.
Section 6: Environmental procedures information information was added.
Section 6: Methods for cleaning up information information was added.
Section 10: Materials to avoid physical property information was added.
Section 10: Conditions to avoid physical property information was added.
Section 1: Address information was added.
Copyright information was added.
Company logo information was added.
Section 6: Clean-up methods heading information was added.
Telephone header information was added.
Company Telephone information was added.
Section 1: Emergency phone information information was added.
Section 1: Emergency phone information information was deleted.
Company Logo information was deleted.
Copyright information was deleted.
Section 16: Web address heading information was deleted.
Section 6: Release measures information information was deleted.
Section 6: Release measures heading information was deleted.
Section 10: Materials and conditions to avoid physical property information was deleted.
Section 1: Address line 1 information was deleted.
Section 1: Address line 2 information was deleted.

Safety Data Sheet

Document Group:	08-2286-6	**Version Number:**	34.00
Issue Date:	07/14/17	**Supercedes Date:**	02/25/16

SECTION 1: Identification

1.1. Product identifier
3M FILTEK Z250 UNIVERSAL RESTORATIVE (ALL SHADES EXCEPT B0.5 and B1)

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:
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

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
SILANE TREATED CERAMIC	444758-98-9	75 - 85 Trade Secret *
BISPHENOL A POLYETHYLENE GLYCOL DIETHER DIMETHACRYLATE (BISEMA6)	41637-38-1	1 - 10 Trade Secret *
DIURETHANE DIMETHACRYLATE (UDMA)	72869-86-4	1 - 10 Trade Secret *
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	1565-94-2	1 - 6 Trade Secret *
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	109-16-0	< 3 Trade Secret *
ALUMINUM OXIDE	1344-28-1	< 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	Condition
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
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
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. 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. Do not get in eyes.

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
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
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
ALUMINUM OXIDE	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):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

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Slight acrylate odor, various shades
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	2.1 g/cm3
Specific Gravity	2.1 [*Ref Std:*WATER=1]
Solubility in Water	Negligible
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	Approximately 300,000 centipoise
Molecular weight	*No Data Available*
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*

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
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	**Condition**
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:
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:
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	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 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
BISPHENOL A POLYETHYLENE GLYCOL DIETHER DIMETHACRYLATE (BISEMA6)	Dermal	Professional judgement	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 (BISEMA6)	Ingestion	Rat	LD50 > 2,000 mg/kg
DIURETHANE DIMETHACRYLATE (UDMA)	Ingestion	Rat	LD50 > 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 judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Rat	LD50 10,837 mg/kg
ALUMINUM OXIDE	Dermal		LD50 estimated to be > 5,000 mg/kg
ALUMINUM OXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
ALUMINUM OXIDE	Ingestion	Rat	LD50 > 5,000 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
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Guinea pig	Mild irritant
ALUMINUM OXIDE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
SILANE TREATED CERAMIC	similar compounds	Mild irritant
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Not available	Moderate irritant
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Professional judgement	Moderate irritant
ALUMINUM OXIDE	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
SILANE TREATED CERAMIC	similar compounds	Not classified
BISPHENOL A POLYETHYLENE GLYCOL DIETHER DIMETHACRYLATE (BISEMA6)	Guinea pig	Not classified
DIURETHANE DIMETHACRYLATE (UDMA)	Guinea pig	Sensitizing
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Guinea pig	Sensitizing
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Human and animal	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 (BISEMA6)	In Vitro	Not mutagenic
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	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
ALUMINUM 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
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Mouse	Not carcinogenic
ALUMINUM OXIDE	Inhalation	Rat	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 female reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	Not classified for male reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	Not classified for development	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation

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	Not classified	similar compounds	NOAEL Not available	
BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA)	Ingestion	endocrine system | liver | nervous system | kidney and/or bladder	Not classified	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	kidney and/or bladder | blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
ALUMINUM OXIDE	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
ALUMINUM OXIDE	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure

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

EPCRA 311/312 Hazard Classifications (effective January 1, 2018):

Physical Hazards
Not applicable

Health Hazards
Respiratory or Skin Sensitization

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
ALUMINUM OXIDE	1344-28-1	Trade Secret < 5

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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