

SAFETY DATA SHEETS

This SDS packet was issued with item:

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Safety Data Sheet

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 30-4500-2 | Version Number: | 1.02 |
| Issue Date: | 02/14/18 | Supersedes Date: | 04/15/15 |

Product identifier

3M™ ESPE™ 8716 RelyX™ Veneer Cement Intro Kit with Universal Etchant/Adhesive

ID Number(s):

70-2010-8800-5, 70-2014-1211-4

Recommended use

Dental Product, Dental veneer kit

Restrictions on use

For use by dental professionals only.

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) |

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

29-8286-6, 16-1922-0, 29-8287-4, 16-1920-4

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| Document Group: | 29-8287-4 | Version Number: | 7.01 |
| Issue Date: | 06/05/19 | Supersedes Date: | 04/26/19 |

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ Scotchbond™ Universal

Product Identification Numbers

LE-F100-1014-6, LE-F100-1014-7, LE-F100-1014-9, 70-2011-3903-0
7000055178

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Adhesive

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

Flammable Liquid: Category 3.

Serious Eye Damage/Irritation: Category 1.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion | Exclamation mark |

Pictograms



Hazard Statements

Flammable liquid and vapor.

Causes serious eye damage.

May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Take precautionary measures against static discharge.

Keep container tightly closed.

Wear protective gloves and eye/face protection.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|--------------|------------------------|
| 2-HYDROXYETHYL METHACRYLATE | 868-77-9 | 15 - 25 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | 15 - 25 Trade Secret * |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | 1207736-18-2 | 10 - 20 Trade Secret * |

| | | |
|--|------------|------------------------|
| ETHANOL | 64-17-5 | 10 - 15 Trade Secret * |
| WATER | 7732-18-5 | 10 - 15 Trade Secret * |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | 25948-33-8 | 1 - 5 Trade Secret * |
| CAMPHORQUINONE | 10373-78-1 | < 2 Trade Secret * |
| DIMETHYLAMINO BENZOAT(-4) | 10287-53-3 | < 2 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate 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 flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Formaldehyde
Carbon monoxide
Carbon dioxide
Irritant Vapors or Gases
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with detergent and water. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Do not get in eyes. Take precautionary measures against static discharge.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|------------|------------|--------|--------------------------|------------------------------|
| ETHANOL | 64-17-5 | ACGIH | STEL:1000 ppm | A3: Confirmed animal carcin. |
| ETHANOL | 64-17-5 | OSHA | TWA:1900 mg/m3(1000 ppm) | |

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: | Liquid |
| Specific Physical Form: | Viscous Liquid |
| Odor, Color, Grade: | Characteristic odor, yellow liquid |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | ≥ 78 °C |
| Flash Point | 30.5 °C [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <i>No Data Available</i> |
| Vapor Density | <i>No Data Available</i> |
| Density | 1 - 1.2 g/cm ³ |
| Specific Gravity | 1 - 1.2 [<i>Ref Std: WATER=1</i>] |
| Solubility in Water | Appreciable |
| 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>Not Applicable</i> |
| Molecular weight | <i>No Data Available</i> |
| Volatile Organic Compounds | <i>No Data Available</i> |

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

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:

No health effects are expected.

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:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human

consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

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 ATE >5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE | Ingestion | Rat | LD50 5,564 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 |
| ETHANOL | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| ETHANOL | Inhalation-Vapor (4 hours) | Rat | LC50 124.7 mg/l |
| ETHANOL | Ingestion | Rat | LD50 17,800 mg/kg |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | Ingestion | Rat | LD50 > 2,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | Ingestion | Rat | LD50 > 5,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | Dermal | similar health hazards | LD50 estimated to be > 5,000 mg/kg |
| CAMPHORQUINONE | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| CAMPHORQUINONE | Ingestion | Rat | LD50 > 2,000 mg/kg |
| DIMETHYLAMINOENZOAT(-4) | Dermal | Rat | LD50 > 2,000 mg/kg |
| DIMETHYLAMINOENZOAT(-4) | Ingestion | Rat | LD50 > 2,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|---------------|---------------------------|
| Overall product | Rabbit | No significant irritation |
| 2-HYDROXYETHYL METHACRYLATE | Rabbit | Minimal irritation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Minimal irritation |
| ETHANOL | Rabbit | No significant irritation |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | In vitro data | Corrosive |
| DIMETHYLAMINOENZOAT(-4) | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|---------------|-------------------|
| Overall product | In vitro data | Corrosive |
| 2-HYDROXYETHYL METHACRYLATE | Rabbit | Moderate irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not | Moderate irritant |

| | | |
|--|---------------|-----------------|
| | available | |
| ETHANOL | Rabbit | Severe irritant |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | In vitro data | Corrosive |
| DIMETHYLAMINO BENZOAT(-4) | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|--|------------------------|----------------|
| 2-HYDROXYETHYL METHACRYLATE | Human and animal | Sensitizing |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Guinea pig | Sensitizing |
| ETHANOL | Human | Not classified |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | Professional judgement | 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 |
|--|----------|--|
| 2-HYDROXYETHYL METHACRYLATE | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ETHANOL | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| ETHANOL | In vivo | Some positive data exist, but the data are not sufficient for classification |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---------|-----------|-------------------------|--|
| ETHANOL | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|---------|-----------------------|--------------------------------|
| 2-HYDROXYETHYL METHACRYLATE | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-HYDROXYETHYL METHACRYLATE | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for female reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for male reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for development | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during |

| | | | | | |
|---------|------------|--------------------------------|-----|-----------------------|--------------------------------|
| ETHANOL | Inhalation | Not classified for development | Rat | NOAEL 38 mg/l | gestation during gestation |
| ETHANOL | Ingestion | Not classified for development | Rat | NOAEL 5,200 mg/kg/day | prematuring & during gestation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|-----------------------------------|--|-------------------------|---------------------|-------------------|
| ETHANOL | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 2.6 mg/l | 30 minutes |
| ETHANOL | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| ETHANOL | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL not available | |
| ETHANOL | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |
| 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHOROUS OXIDE (P2O5) | Inhalation | respiratory irritation | May cause respiratory irritation | similar health hazards | NOAEL Not available | |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | Ingestion | nervous system | Not classified | Rat | NOAEL 5,000 mg/kg | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|--|--|---------|-----------------------|--------------------------------|
| 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 | prematuring & during gestation |
| ETHANOL | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| ETHANOL | Inhalation | hematopoietic system immune system | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| ETHANOL | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| ETHANOL | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg/day | 7 days |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | Ingestion | endocrine system hematopoietic system liver | Not classified | Rat | NOAEL 200 mg/kg/day | 28 days |
| COPOLYMER OF ACRYLIC AND ITACONIC ACID | Ingestion | heart bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 2,000 mg/kg/day | 28 days |

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.

Incinerate uncured product in a permitted waste incineration 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): D001 (Ignitable), D035 (Methyl ethyl ketone)

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

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Hazard Not Otherwise Classified (HNOC)

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

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: 3 **Flammability:** 3 **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.

| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 29-8287-4 | Version Number: | 7.01 |
| Issue Date: | 06/05/19 | Supersedes Date: | 04/26/19 |

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Safety Data Sheet

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 29-8286-6 | Version Number: | 4.00 |
| Issue Date: | 11/06/18 | Supersedes Date: | 01/18/18 |

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ Scotchbond™ Universal Etchant

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-----|----------------|-----|
| LE-F100-1014-5 | | LE-F100-1040-4 | |
| 70-2011-3906-3 | | 70-2011-4006-1 | |
| 70-2011-4007-9 | | | |

7000055181, 7000055191, 7100007505

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Etching gel

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

Corrosive to metal: Category 1.

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 1C.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion |

Pictograms



Hazard Statements

May be corrosive to metals.

Causes severe skin burns and eye damage.

Precautionary Statements

Prevention:

Keep only in original container.

Wear protective gloves, protective clothing, and eye/face protection.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Absorb spillage to prevent material damage.

Storage:

Store in a corrosive resistant container with a resistant inner liner.

Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|-------------|------------------------|
| WATER | 7732-18-5 | 50 - 65 Trade Secret * |
| PHOSPHORIC ACID | 7664-38-2 | 30 - 40 Trade Secret * |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | 112945-52-5 | 1 - 10 Trade Secret * |

| | | |
|---------------------|------------|----------------------|
| POLYETHYLENE GLYCOL | 25322-68-3 | 1 - 5 Trade Secret * |
| ALUMINUM OXIDE | 1344-28-1 | < 2 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

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

Contain spill. Collect as much of the spilled material as possible. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Clean up residue with water. Cover, but do not seal for 48 hours. 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**

Avoid prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Keep only in original container. Store in a corrosive resistant container with a resistant inner liner. Store away from strong bases.

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 |
|-------------------------------|-------------|--------|---|--------------------------------|
| SILICA, AMORPHOUS | 112945-52-5 | OSHA | TWA concentration:0.8 mg/m ³ ;TWA:20 millions of particles/cu. ft. | |
| ALUMINUM OXIDE | 1344-28-1 | OSHA | TWA(as total dust):15 mg/m ³ ;TWA(respirable fraction):5 mg/m ³ | |
| Aluminum, insoluble compounds | 1344-28-1 | ACGIH | TWA(respirable fraction):1 mg/m ³ | A4: Not class. as human carcin |
| POLYETHYLENE GLYCOL | 25322-68-3 | AIHA | TWA(as particulate):10 mg/m ³ | |
| PHOSPHORIC ACID | 7664-38-2 | ACGIH | TWA:1 mg/m ³ ;STEL:3 mg/m ³ | |
| PHOSPHORIC ACID | 7664-38-2 | OSHA | TWA:1 mg/m ³ | |

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: | Liquid |
| Specific Physical Form: | Gel |
| Odor, Color, Grade: | Slight characteristic odor, Blue |
| Odor threshold | <i>No Data Available</i> |
| pH | < 1 |
| Melting point | <i>Not Applicable</i> |
| Boiling Point | <i>No Data Available</i> |
| Flash Point | > 100 °C [Test Method:Closed Cup] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <i>No Data Available</i> |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.1 g/ml - 1.2 g/ml |
| Specific Gravity | 1.1 - 1.2 [Ref Std:WATER=1] |
| Solubility in Water | Complete |
| 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> |
| Molecular weight | <i>No Data Available</i> |
| Volatile Organic Compounds | <i>No Data Available</i> |
| Percent volatile | <i>No Data Available</i> |
| VOC Less H2O & Exempt Solvents | <i>No Data Available</i> |

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong bases

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:

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

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 ATE >5,000 mg/kg |
| PHOSPHORIC ACID | Dermal | Rabbit | LD50 2,740 mg/kg |
| PHOSPHORIC ACID | Ingestion | Rat | LD50 1,530 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 |
| POLYETHYLENE GLYCOL | Dermal | Rabbit | LD50 > 20,000 mg/kg |
| POLYETHYLENE GLYCOL | Ingestion | Rat | LD50 32,770 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 |
|---|---------|---------------------------|
| PHOSPHORIC ACID | Rabbit | Corrosive |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Rabbit | No significant irritation |
| POLYETHYLENE GLYCOL | Rabbit | Minimal irritation |
| ALUMINUM OXIDE | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|-------------------------|---------------------------|
| PHOSPHORIC ACID | official classification | Corrosive |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Rabbit | No significant irritation |
| POLYETHYLENE GLYCOL | Rabbit | Mild irritant |
| ALUMINUM OXIDE | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|---|------------------|----------------|
| PHOSPHORIC ACID | Human | Not classified |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Human and animal | Not classified |
| POLYETHYLENE GLYCOL | Guinea pig | Not classified |

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 |
|---|----------|---------------|
| PHOSPHORIC ACID | In Vitro | Not mutagenic |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | In Vitro | Not mutagenic |
| POLYETHYLENE GLYCOL | In Vitro | Not mutagenic |
| POLYETHYLENE GLYCOL | In vivo | Not mutagenic |
| ALUMINUM OXIDE | In Vitro | Not mutagenic |

Carcinogenicity

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

| | | | |
|---|---------------|-------|--|
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |
| POLYETHYLENE GLYCOL | Ingestion | Rat | Not carcinogenic |
| ALUMINUM OXIDE | Inhalation | Rat | Not carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---|---------------|--|---------|-------------------------------|----------------------|
| PHOSPHORIC ACID | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| PHOSPHORIC ACID | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| PHOSPHORIC ACID | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| POLYETHYLENE GLYCOL | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,125 mg/kg/day | during gestation |
| POLYETHYLENE GLYCOL | Ingestion | Not classified for male reproduction | Rat | NOAEL 5699 +/- 1341 mg/kg/day | 5 days |
| POLYETHYLENE GLYCOL | Not Specified | Not classified for reproduction and/or development | | NOEL N/A | |
| POLYETHYLENE GLYCOL | Ingestion | Not classified for development | Mouse | NOAEL 562 mg/animal/day | during gestation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---------------------|------------|------------------------|--|---------|---------------------|-----------------------|
| PHOSPHORIC ACID | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| POLYETHYLENE GLYCOL | Inhalation | respiratory irritation | Not classified | Rat | NOAEL 1.008 mg/l | 2 weeks |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|--|--|---------|-----------------------|-----------------------|
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| POLYETHYLENE GLYCOL | Inhalation | respiratory system | Not classified | Rat | NOAEL 1.008 mg/l | 2 weeks |
| POLYETHYLENE GLYCOL | Ingestion | kidney and/or bladder heart endocrine system hematopoietic system liver nervous system | Not classified | Rat | NOAEL 5,640 mg/kg/day | 13 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.

EPA Hazardous Waste Number (RCRA): D002 (Corrosive)

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

Corrosive to metal

Health Hazards

Hazard Not Otherwise Classified (HNOC)

Serious eye damage or eye irritation

Skin Corrosion or Irritation

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

Ingredient

ALUMINUM OXIDE

C.A.S. No

1344-28-1

% by Wt

Trade Secret < 2

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>Listing</u> |
|----------------------------|-------------------|---------------------|
| ETHYLENE GLYCOL (INGESTED) | 107-21-1 | Developmental Toxin |

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

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: 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None
Corrosive: Yes

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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| Issue Date: | 11/06/18 | Supersedes Date: | 01/18/18 |

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|------------------------|-----------|-------------------------|----------|
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SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ RELYX™ VENEER CEMENT REFILLS

Product Identification Numbers

LE-F100-0702-2, 70-2010-3183-1, 70-2010-3184-9, 70-2010-3185-6, 70-2010-3186-4, 70-2010-3187-2, 70-2010-3188-0, 70-2010-3236-7, 70-2010-3237-5, 70-2010-3238-3, 70-2010-3239-1, 70-2010-3240-9, 70-2010-8790-8, 70-2014-0138-0, 70-2014-0139-8, 70-2014-0140-6, 70-2014-0141-4, 70-2014-0142-2, 70-2014-0143-0

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Veneer cement

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

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

Causes eye irritation.
 May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Wear protective gloves.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 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 | 55 - 65 Trade Secret * |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | 109-16-0 | 10 - 20 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | 10 - 20 Trade Secret * |
| SILANE TREATED SILICA | 248596-91-0 | 1 - 10 Trade Secret * |
| REACTED POLYCAPROLACTONE POLYMER | None | 1 - 10 Trade Secret * |
| TITANIUM DIOXIDE | 13463-67-7 | < 1 Trade Secret * |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 58109-40-3 | < 0.5 Trade Secret * |
| TRIPHENYLANTIMONY | 603-36-1 | < 0.5 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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. 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. 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 |
|--------------------|------------|--------|---|--------------------------------|
| TITANIUM DIOXIDE | 13463-67-7 | ACGIH | TWA:10 mg/m ³ | A4: Not class. as human carcin |
| TITANIUM DIOXIDE | 13463-67-7 | OSHA | TWA(as total dust):15 mg/m ³ | |
| ANTIMONY COMPOUNDS | 603-36-1 | ACGIH | TWA(as Sb):0.5 mg/m ³ | |
| ANTIMONY COMPOUNDS | 603-36-1 | OSHA | TWA(as Sb):0.5 mg/m ³ | |

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: | Characteristic odor, various shades |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>No Data Available</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | <i>Not Applicable</i> |
| Flash Point | No flash point |
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | Not Classified |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.102 g/cm ³ |
| Specific Gravity | 1.102 [Ref Std: WATER=1] |
| Solubility in Water | Negligible |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>Not Applicable</i> |
| Autoignition temperature | <i>Not Applicable</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | <i>Not Applicable</i> |
| Molecular weight | <i>No Data Available</i> |
| Volatile Organic Compounds | <i>Not Applicable</i> |
| Percent volatile | <i>Not Applicable</i> |
| VOC Less H₂O & Exempt Solvents | <i>Not Applicable</i> |

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:

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

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

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

Additional Health Effects:

Carcinogenicity:

Exposures needed to cause the following health effect(s) are not expected during normal, intended use:

Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|------------------|------------|-------------------------------|---|
| TITANIUM DIOXIDE | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

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

Acute Toxicity

| Name | Route | Species | Value |
|--|-----------|------------------------|---|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| 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 |
| 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 |

| | | | |
|--|--------------------------------|-----------------------|--|
| 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 |
| SILANE TREATED SILICA | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| SILANE TREATED SILICA | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| REACTED POLYCAPROLACTONE POLYMER | Dermal | Professional judgment | LD50 estimated to be 2,000 - 5,000 mg/kg |
| REACTED POLYCAPROLACTONE POLYMER | Ingestion | similar compounds | LD50 estimated to be 2,000 - 5,000 mg/kg |
| TITANIUM DIOXIDE | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| TITANIUM DIOXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| TITANIUM DIOXIDE | Ingestion | Rat | LD50 > 10,000 mg/kg |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Ingestion | Rat | LD50 32 mg/kg |
| TRIPHENYLANTIMONY | Inhalation-Dust/Mist | | LC50 estimated to be 1 - 5 mg/l |
| TRIPHENYLANTIMONY | Dermal | Rat | LD50 > 2,000 mg/kg |
| TRIPHENYLANTIMONY | Ingestion | Rat | LD50 82.5 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-----------------------|---------------------------|
| SILANE TREATED CERAMIC | similar compounds | No significant irritation |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Guinea pig | Mild irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Minimal irritation |
| SILANE TREATED SILICA | Professional judgment | No significant irritation |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | No significant irritation |
| TRIPHENYLANTIMONY | Rabbit | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|-----------------------|---------------------------|
| SILANE TREATED CERAMIC | similar compounds | Mild irritant |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Professional judgment | Moderate irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Moderate irritant |
| SILANE TREATED SILICA | Professional judgment | No significant irritation |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | Mild irritant |
| TRIPHENYLANTIMONY | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|--|-------------------|----------------|
| SILANE TREATED CERAMIC | similar compounds | Not classified |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Human and animal | Sensitizing |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Guinea pig | Sensitizing |
| TITANIUM DIOXIDE | Human and animal | Not classified |

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 |
|--|----------|--|
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TITANIUM DIOXIDE | In Vitro | Not mutagenic |
| TITANIUM DIOXIDE | In vivo | Not mutagenic |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 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 |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Dermal | Mouse | Not carcinogenic |
| TITANIUM DIOXIDE | Ingestion | Multiple animal species | Not carcinogenic |
| TITANIUM DIOXIDE | Inhalation | Rat | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|---------|---------------------|--------------------------------|
| 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 |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for female reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for male reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for development | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |

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 | Not classified | 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 | Not classified | similar compounds | NOAEL Not available | |
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Dermal | kidney and/or bladder blood | Not classified | Mouse | NOAEL 833 mg/kg/day | 78 weeks |
| 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 |
| TITANIUM DIOXIDE | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| TITANIUM DIOXIDE | 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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

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.

Document Group: 16-1920-4 **Version Number:** 12.02
Issue Date: 05/18/18 **Supersedes Date:** 12/28/17

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Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 16-1922-0 | Version Number: | 7.01 |
| Issue Date: | 06/05/18 | Supersedes Date: | 02/25/16 |

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ RELYX™ VENEER TRY-IN PASTE

Product Identification Numbers

LE-F100-0702-1, 70-2010-3189-8, 70-2010-3190-6, 70-2010-3191-4, 70-2010-3192-2, 70-2010-3193-0, 70-2010-3194-8

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Veneer try-in paste

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

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---------------------|------------|------------------------|
| POLYETHYLENE GLYCOL | 25322-68-3 | 80 - 95 Trade Secret * |
| CERAMIC POWDER | 66402-68-4 | 5 - 15 Trade Secret * |
| TITANIUM DIOXIDE | 13463-67-7 | < 2 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

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

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. Observe precautions from other sections.

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. 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

Avoid prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

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 |
|---------------------|------------|--------|--|--------------------------------|
| TITANIUM DIOXIDE | 13463-67-7 | ACGIH | TWA:10 mg/m ³ | A4: Not class. as human carcin |
| TITANIUM DIOXIDE | 13463-67-7 | OSHA | TWA(as total dust):15 mg/m ³ | |
| POLYETHYLENE GLYCOL | 25322-68-3 | AIHA | TWA(as particulate):10 mg/m ³ | |

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: | Characteristic odor, various shades |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | <i>Not Applicable</i> |
| Flash Point | <i>Not Applicable</i> |
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | Not Classified |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.3 g/cm ³ |
| Specific Gravity | 1.3 [Ref Std:WATER=1] |
| Solubility in Water | Appreciable |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>Not Applicable</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | <i>No Data Available</i> |
| Molecular weight | <i>No Data Available</i> |
| Percent volatile | <i>Not Applicable</i> |

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.

Eye Contact:

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

Ingestion:

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

Additional Health Effects:**Carcinogenicity:**

Exposures needed to cause the following health effect(s) are not expected during normal, intended use:

Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|-------------------|----------------|-------------------------------|---|
| TITANIUM DIOXIDE | 13463-67-7 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

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

Acute Toxicity

| Name | Route | Species | Value |
|---------------------|--------------------------------|---------|--|
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| POLYETHYLENE GLYCOL | Dermal | Rabbit | LD50 > 20,000 mg/kg |
| POLYETHYLENE GLYCOL | Ingestion | Rat | LD50 32,770 mg/kg |
| CERAMIC POWDER | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| CERAMIC POWDER | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| TITANIUM DIOXIDE | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| TITANIUM DIOXIDE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| TITANIUM DIOXIDE | Ingestion | Rat | LD50 > 10,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---------------------|---------|---------------------------|
| POLYETHYLENE GLYCOL | Rabbit | Minimal irritation |
| CERAMIC POWDER | Rabbit | No significant irritation |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---------------------|---------|---------------------------|
| POLYETHYLENE GLYCOL | Rabbit | Mild irritant |
| CERAMIC POWDER | Rabbit | Mild irritant |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|---------------------|------------------|----------------|
| POLYETHYLENE GLYCOL | Guinea pig | Not classified |
| TITANIUM DIOXIDE | Human and animal | Not classified |

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 |
|---------------------|----------|--|
| POLYETHYLENE GLYCOL | In Vitro | Not mutagenic |
| POLYETHYLENE GLYCOL | In vivo | Not mutagenic |
| CERAMIC POWDER | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TITANIUM DIOXIDE | In Vitro | Not mutagenic |
| TITANIUM DIOXIDE | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|---------------------|------------|-------------------------|--|
| POLYETHYLENE GLYCOL | Ingestion | Rat | Not carcinogenic |
| CERAMIC POWDER | Inhalation | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| TITANIUM DIOXIDE | Ingestion | Multiple animal species | Not carcinogenic |
| TITANIUM DIOXIDE | Inhalation | Rat | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---------------------|---------------|--|---------|-------------------------------|-------------------|
| POLYETHYLENE GLYCOL | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,125 mg/kg/day | during gestation |
| POLYETHYLENE GLYCOL | Ingestion | Not classified for male reproduction | Rat | NOAEL 5699 +/- 1341 mg/kg/day | 5 days |
| POLYETHYLENE GLYCOL | Not Specified | Not classified for reproduction and/or development | | NOEL N/A | |
| POLYETHYLENE GLYCOL | Ingestion | Not classified for development | Mouse | NOAEL 562 mg/animal/day | during gestation |

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

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---------------------|------------|------------------------|----------------|---------|------------------|-------------------|
| POLYETHYLENE GLYCOL | Inhalation | respiratory irritation | Not classified | Rat | NOAEL 1.008 mg/l | 2 weeks |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---------------------|------------|--|--|-------------------------|-----------------------|-----------------------|
| POLYETHYLENE GLYCOL | Inhalation | respiratory system | Not classified | Rat | NOAEL 1.008 mg/l | 2 weeks |
| POLYETHYLENE GLYCOL | Ingestion | kidney and/or bladder heart endocrine system hematopoietic system liver nervous system | Not classified | Rat | NOAEL 5,640 mg/kg/day | 13 weeks |
| CERAMIC POWDER | Inhalation | pulmonary fibrosis | Not classified | Multiple animal species | NOAEL not available | |
| CERAMIC POWDER | Inhalation | respiratory system | Not classified | Human | NOAEL not available | occupational exposure |
| TITANIUM DIOXIDE | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| TITANIUM DIOXIDE | 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.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. If no other disposal options are available, waste product 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

Not applicable

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: 0 **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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|------------------------|-----------|-------------------------|----------|
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