

SAFETY DATA SHEETS

This SDS packet was issued with item:

075801105

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).

075800768 075800859 075800867 075800875 075800883 075800891 075800917 075801055 075801063 075801071

075801089 075801097 075801113 075801121



Material Safety Data Sheet

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PRODUCT NAME: 3304/ 3305 3M™ ESPE™ KETAC™ NANO LIGHT-CURE GLASS IONOMER RESTORATIVE KIT

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: 02/23/11

Supersedes Date: 02/11/11

Document Group: 20-3654-9

ID Number(s):

LE-F100-0193-1, 70-2010-5072-4, 70-2010-5073-2, 70-2010-5074-0, 70-2010-5075-7, 70-2010-5077-3, 70-2010-5712-5, 70-2010-5713-3, 70-2010-5714-1, 70-2010-5715-8, 70-2010-5716-6, 70-2010-5718-2, 70-2010-8549-8

This product is a kit or a multipart product which consists of multiple, independently packaged components. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page. The document numbers of the MSDSs for components of this product are:

22-4947-2, 22-4955-5

Revision Changes:

Kit: ID Number(s) was modified.

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 20-3654-9 | Version Number: | 6.05 |
| Issue Date: | 04/15/15 | Supercedes Date: | 02/23/11 |

Product identifier

3304/ 3305 3M™ ESPE™ KETAC™ NANO LIGHT-CURE GLASS IONOMER RESTORATIVE KIT

ID Number(s):

LE-F100-0193-1, 70-2010-5072-4, 70-2010-5073-2, 70-2010-5074-0, 70-2010-5075-7, 70-2010-5077-3, 70-2010-5712-5, 70-2010-5713-3, 70-2010-5714-1, 70-2010-5715-8, 70-2010-5716-6, 70-2010-5718-2, 70-2010-8549-8

Recommended use

Dental product, Dental restorative.

Restrictions on use

For use only by dental professionals.

Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | 3M ESPE Dental Products |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

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:

22-4955-5, 22-4947-2

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 22-4947-2 | Version Number: | 5.03 |
| Issue Date: | 06/25/21 | Supersedes Date: | 04/19/21 |

SECTION 1: Identification

1.1. Product identifier

3M™ Ketac™ Nano Light-Curing Glass Ionomer Restorative, Paste A

Product Identification Numbers

LE-F100-0308-8, LE-F100-0354-5, LE-F100-0744-9

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

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:**

Avoid breathing dust/fume/gas/mist/vapors/spray.
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 Glass | None | 40 - 55 Trade Secret * |
| Silane Treated Zirconia | None | 20 - 30 Trade Secret * |
| 2-Hydroxyethyl Methacrylate (HEMA) | 868-77-9 | 1 - 15 Trade Secret * |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | 25852-47-5 | 1 - 10 Trade Secret * |
| Silane Treated Silica | 248596-91-0 | 1 - 10 Trade Secret * |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | 1565-94-2 | 1 - 5 Trade Secret * |
| Triethylene Glycol Dimethacrylate (TEGDMA) | 109-16-0 | < 1 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

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

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

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

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

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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**

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

8.2. Exposure controls**8.2.1. Engineering controls**

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state

Solid

Color

Tooth

Specific Physical Form:

Paste

Odor

Resinous

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

2.11 g/cm³

Specific Gravity

2.11 [Ref Std: WATER=1]

Solubility in Water

Negligible

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

Not Applicable

| | |
|---------------------------|--------------------------|
| Autoignition temperature | <i>Not Applicable</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | <i>No Data Available</i> |
| Molecular weight | <i>No Data Available</i> |

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Light

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

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

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo

induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

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.

Toxicological Data

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

Acute Toxicity

| Name | Route | Species | Value |
|--|--------------------------------|-----------------------|--|
| Overall product | Ingestion | | No data available; calculated ATE _{2,000} - 5,000 mg/kg |
| Silane Treated Glass | Dermal | | LD ₅₀ estimated to be > 5,000 mg/kg |
| Silane Treated Glass | Ingestion | | LD ₅₀ estimated to be 2,000 - 5,000 mg/kg |
| Silane Treated Zirconia | Dermal | | LD ₅₀ estimated to be > 5,000 mg/kg |
| Silane Treated Zirconia | Ingestion | Mouse | LD ₅₀ > 8,800 mg/kg |
| Silane Treated Zirconia | Inhalation-Dust/Mist (4 hours) | Rat | LC ₅₀ > 4.3 mg/l |
| 2-Hydroxyethyl Methacrylate (HEMA) | Dermal | Rabbit | LD ₅₀ > 5,000 mg/kg |
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Rat | LD ₅₀ 5,564 mg/kg |
| Silane Treated Silica | Dermal | | LD ₅₀ estimated to be > 5,000 mg/kg |
| Silane Treated Silica | Ingestion | | LD ₅₀ estimated to be > 5,000 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Dermal | Rabbit | LD ₅₀ 15,500 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Ingestion | Rat | LD ₅₀ 9,400 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Dermal | Professional judgment | LD ₅₀ estimated to be > 5,000 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | Rat | LD ₅₀ > 11,700 mg/kg |
| Triethylene Glycol Dimethacrylate (TEGDMA) | Dermal | Professional judgment | LD ₅₀ estimated to be > 5,000 mg/kg |
| Triethylene Glycol Dimethacrylate (TEGDMA) | Ingestion | Rat | LD ₅₀ 10,837 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-----------------------|---------------------------|
| Silane Treated Glass | Professional judgment | No significant irritation |
| Silane Treated Zirconia | Rabbit | No significant irritation |
| 2-Hydroxyethyl Methacrylate (HEMA) | Rabbit | Minimal irritation |
| Silane Treated Silica | Professional judgment | No significant irritation |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Mild irritant |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Rabbit | No significant irritation |
| Triethylene Glycol Dimethacrylate (TEGDMA) | Guinea pig | Mild irritant |

Serious Eye Damage/Irritation

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

| | | |
|--|-----------------------|---------------------------|
| Silane Treated Glass | Professional judgment | No significant irritation |
| Silane Treated Zirconia | Rabbit | Mild irritant |
| 2-Hydroxyethyl Methacrylate (HEMA) | Rabbit | Moderate irritant |
| Silane Treated Silica | Professional judgment | No significant irritation |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Moderate irritant |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In vitro data | No significant irritation |
| Triethylene Glycol Dimethacrylate (TEGDMA) | Professional judgment | Moderate irritant |

Skin Sensitization

| Name | Species | Value |
|--|------------------|----------------|
| 2-Hydroxyethyl Methacrylate (HEMA) | Human and animal | Sensitizing |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Guinea pig | Not classified |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Mouse | Not classified |
| 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 |
|--|----------|--|
| 2-Hydroxyethyl Methacrylate (HEMA) | In vivo | Not mutagenic |
| 2-Hydroxyethyl Methacrylate (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In Vitro | Not mutagenic |
| Triethylene Glycol Dimethacrylate (TEGDMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|--|--------|---------|------------------|
| Triethylene Glycol Dimethacrylate (TEGDMA) | Dermal | Mouse | Not carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|---------|-----------------------|--------------------------------|
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-Hydroxyethyl Methacrylate (HEMA) | 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 development | Rat | NOAEL 1,000 mg/kg/day | 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

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|------------------------|--|------------------------|---------------------|-------------------|
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|-----------|--|----------------|---------|-----------------------|-------------------|
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | endocrine system hematopoietic system liver heart skin gastrointestinal tract bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 90 days |
| Triethylene Glycol Dimethacrylate (TEGDMA) | Dermal | kidney and/or bladder blood | Not classified | Mouse | NOAEL 833 mg/kg/day | 78 weeks |

Aspiration Hazard

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative,

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

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

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: 22-4947-2 **Version Number:** 5.03

Issue Date: 06/25/21

Supersedes Date: 04/19/21

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| Document Group: | 22-4955-5 | Version Number: | 4.02 |
| Issue Date: | 05/14/21 | Supersedes Date: | 12/28/17 |

SECTION 1: Identification

1.1. Product identifier

3M™ Ketac™ Nano Light-Curing Glass Ionomer Restorative, Paste B

Product Identification Numbers

LE-F100-0309-0, LE-F100-0354-6, LE-F100-0745-1

1.2. Recommended use and restrictions on use

Recommended use

Dental product, Restorative

Restrictions on use

For use only by dental products.

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Oral Care Solutions Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms**Hazard Statements**

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

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

Response:

IF ON SKIN: Wash with plenty of soap and water.

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

Wash contaminated clothing before reuse.

Disposal:

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

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|-------------|------------------------|
| Silane Treated Ceramic | 444758-98-9 | 40 - 60 Trade Secret * |
| Copolymer of Acrylic and Itaconic Acids | 25948-33-8 | 20 - 30 Trade Secret * |
| Water | 7732-18-5 | 10 - 20 Trade Secret * |
| 2-Hydroxyethyl Methacrylate (HEMA) | 868-77-9 | 1 - 10 Trade Secret * |
| Diphenyliodonium Hexafluorophosphate | 58109-40-3 | < 0.5 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

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

Skin Contact:

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

Eye Contact:

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

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

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <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. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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

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

8.2. Exposure controls**8.2.1. Engineering controls**

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state

Solid

Color

Yellow

Specific Physical Form:

Paste

Odor

Resinous

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point

Not Applicable

Flash Point

Not Applicable

Evaporation rate

Not Applicable

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

Vapor Pressure

Not Applicable

Vapor Density

Not Applicable

Density

1.66 g/cm³

Specific Gravity

1.66 [Ref Std:WATER=1]

Solubility in Water

Negligible

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

Not Applicable

Autoignition temperature

Not Applicable

Decomposition temperature

No Data Available

Viscosity

No Data Available

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

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

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 | 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 |
| Copolymer of Acrylic and Itaconic Acids | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Copolymer of Acrylic and Itaconic Acids | Dermal | similar health hazards | LD50 estimated to be > 5,000 mg/kg |
| 2-Hydroxyethyl Methacrylate (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |
| Diphenyliodonium Hexafluorophosphate | Ingestion | Rat | LD50 32 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--------------------------------------|-------------------|---------------------------|
| Silane Treated Ceramic | similar compounds | No significant irritation |
| 2-Hydroxyethyl Methacrylate (HEMA) | Rabbit | Minimal irritation |
| Diphenyliodonium Hexafluorophosphate | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--------------------------------------|-------------------|-------------------|
| Silane Treated Ceramic | similar compounds | Mild irritant |
| 2-Hydroxyethyl Methacrylate (HEMA) | Rabbit | Moderate irritant |
| Diphenyliodonium Hexafluorophosphate | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|------------------------------------|-------------------|----------------|
| Silane Treated Ceramic | similar compounds | Not classified |
| 2-Hydroxyethyl Methacrylate (HEMA) | 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 |
|--------------------------------------|----------|--|
| 2-Hydroxyethyl Methacrylate (HEMA) | In vivo | Not mutagenic |
| 2-Hydroxyethyl Methacrylate (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| 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 |

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

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------|-----------|--|---------|-----------------------|--------------------------------|
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-Hydroxyethyl Methacrylate (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 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 |
|---|------------|------------------------|----------------|---------------|----------------------|-------------------|
| Copolymer of Acrylic and Itaconic Acids | Ingestion | nervous system | Not classified | Rat | NOAEL 5,000 mg/kg | |
| 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 | |
| Copolymer of Acrylic and Itaconic Acids | Ingestion | endocrine system hematopoietic system liver | Not classified | Rat | NOAEL 200 mg/kg/day | 28 days |
| Copolymer of Acrylic and Itaconic Acids | 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.

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

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

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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