

SAFETY DATA SHEETS

This SDS packet was issued with item:

075012737

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).

075012703 075012711 075012729 079337503 079337509 273005836 273006166



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ ESPE™ CLINPRO™ SEALANT
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: 10/10/12
Supersedes Date: 06/01/12

Document Group: 16-0386-9

Product Use:

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

SECTION 2: INGREDIENTS

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>% by Wt</u> |
|--|-------------------|----------------|
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | 109-16-0 | 40 - 50 |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | 40 - 50 |
| SILANE TREATED SILICA | 68611-44-9 | 5 - 10 |
| TETRABUTYLAMMONIUM TETRAFLUOROBORATE | 429-42-5 | < 5 |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 58109-40-3 | < 1 |
| TRIPHENYLANTIMONY | 603-36-1 | < 0.5 |
| ETHYL 4-DIMETHYL AMINOBENZOATE (EDMAB) | 10287-53-3 | < 0.5 |
| TITANIUM DIOXIDE | 13463-67-7 | < 0.5 |
| HYDROQUINONE | 123-31-9 | < 0.05 |

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Liquid

Odor, Color, Grade: Characteristic odor, Clear to slight yellow

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction. This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

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

Skin Contact:

Moderate 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.

Inhalation:

No health effects are expected.

Ingestion:

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

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

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

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

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

Inhalation: No need for first aid is anticipated.

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

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

No Data Available

Flash Point

Flash point > 93 °C (200 °F)

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

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

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

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

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

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact. Avoid skin contact. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Wash hands after handling and before eating.

7.2 STORAGE

Store out of direct sunlight. Keep container in well-ventilated area. Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

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

8.2.2 Skin Protection

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

8.2.3 Respiratory Protection

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

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

| <u>Ingredient</u> | <u>Authority</u> | <u>Type</u> | <u>Limit</u> | <u>Additional Information</u> |
|--------------------|------------------|--------------------------|--------------|-------------------------------|
| ANTIMONY COMPOUNDS | ACGIH | TWA, as Sb | 0.5 mg/m3 | |
| ANTIMONY COMPOUNDS | OSHA | TWA, as Sb | 0.5 mg/m3 | |
| Borates | ACGIH | TWA, inhalable fraction | 2 mg/m3 | |
| Borates | ACGIH | STEL, inhalable fraction | 6 mg/m3 | |
| HYDROQUINONE | ACGIH | TWA | 1 mg/m3 | Sensitizer |
| HYDROQUINONE | CMRG | STEL | 4 mg/m3 | |
| HYDROQUINONE | OSHA | TWA | 2 mg/m3 | |
| TITANIUM DIOXIDE | ACGIH | TWA | 10 mg/m3 | |
| TITANIUM DIOXIDE | CMRG | TWA, as respirable dust | 5 mg/m3 | |
| TITANIUM DIOXIDE | OSHA | TWA, as total dust | 15 mg/m3 | |

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------------------|---|
| Specific Physical Form: | Liquid |
| Odor, Color, Grade: | Characteristic odor, Clear to slight yellow |
| General Physical Form: | Liquid |
| Autoignition temperature | No Data Available |
| Flash Point | Flash point > 93 °C (200 °F) |
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |
| Boiling Point | No Data Available |
| Density | 1.2 g/ml |
| Vapor Density | No Data Available |
| Vapor Pressure | <=27 psia [@ 131.0 °F] |
| Specific Gravity | 1.2 [Ref Std: WATER=1] |
| pH | No Data Available |
| Melting point | Not Applicable |
| Solubility In Water | No Data Available |
| Evaporation rate | No Data Available |

| | |
|---|-------------------------------|
| Volatile Organic Compounds | <i>No Data Available</i> |
| Kow - Oct/Water partition coef | <i>Not Applicable</i> |
| Percent volatile | <i>No Data Available</i> |
| VOC Less H2O & Exempt Solvents | <i>No Data Available</i> |
| Viscosity | Approximately 1000 centistoke |

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

None known

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

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

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a facility permitted to accept chemical waste. As a disposal alternative, incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF. Facility must be capable of handling halogenated materials.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

70-2009-2353-3, 70-2010-3009-8, 70-2010-3011-4, 70-2010-3148-4, 70-2010-3150-0, 70-2010-3152-6, 70-2010-3154-2, 70-2010-3505-5, 70-2010-8733-8

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

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 13: Waste disposal method information was modified.

Section 2: Ingredient table was modified.

Section 8: Exposure guidelines ingredient information was modified.

Section 6: Personal precautions information was modified.

Section 6: Methods for cleaning up information was modified.

Section 8: Exposure guidelines data source legend was added.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M

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Safety Data Sheet

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 16-0386-9 | Version Number: | 16.02 |
| Issue Date: | 02/05/18 | Supersedes Date: | 01/19/18 |

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ CLINPRO™ SEALANT

Product Identification Numbers

70-2010-3009-8, 70-2010-3011-4, 70-2010-3148-4, 70-2010-3150-0, 70-2010-3152-6, 70-2010-3154-2, 70-2010-8733-8, 70-2014-1240-3, 70-2014-1241-1, 70-2014-1242-9

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Dental sealant

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 |
|--|------------|------------------------|
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | 109-16-0 | 40 - 50 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | 40 - 50 Trade Secret * |
| SILANE TREATED SILICA | 68611-44-9 | 5 - 10 Trade Secret * |
| TETRABUTYLAMMONIUM TETRAFLUOROBORATE | 429-42-5 | < 5 Trade Secret * |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 58109-40-3 | < 1 Trade Secret * |
| TRIPHENYLANTIMONY | 603-36-1 | < 0.5 Trade Secret * |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | 10287-53-3 | < 0.5 Trade Secret * |
| TITANIUM DIOXIDE | 13463-67-7 | < 0.5 Trade Secret * |
| HYDROQUINONE | 123-31-9 | < 0.05 Trade Secret * |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eye Contact:

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

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

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. 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. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--------------------|------------|--------|---|---|
| HYDROQUINONE | 123-31-9 | ACGIH | TWA:1 mg/m ³ | A3: Confirmed animal carcin., Dermal Sensitizer |
| HYDROQUINONE | 123-31-9 | OSHA | TWA:2 mg/m ³ | |
| 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 | |
| SILICA, AMORPHOUS | 68611-44-9 | OSHA | TWA concentration:0.8 mg/m ³ ;TWA:20 millions of particles/cu. ft. | |

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: | Liquid |
| Odor, Color, Grade: | Characteristic odor, Clear to slight yellow |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>No Data Available</i> |
| Melting point | <i>Not Applicable</i> |
| Boiling Point | <i>No Data Available</i> |
| Flash Point | Flash point > 93 °C (200 °F) |
| 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 | <=27 psia [@ 131.0 °F] |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.2 g/ml |
| Specific Gravity | 1.2 [Ref Std: WATER=1] |
| Solubility In Water | <i>No Data Available</i> |
| 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 | Approximately 1,000 centistoke |
| 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 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.

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:

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.

| <u>Ingredient</u> | <u>CAS No.</u> | <u>Class Description</u> | <u>Regulation</u> |
|-------------------|----------------|-------------------------------|---|
| 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

| <u>Name</u> | <u>Route</u> | <u>Species</u> | <u>Value</u> |
|-----------------|--------------|----------------|--------------------|
| Overall product | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Overall product | Dermal | similar health | LD50 Not available |

| | | | |
|--|--------------------------------|------------------------|--|
| 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 judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| SILANE TREATED SILICA | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| SILANE TREATED SILICA | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| SILANE TREATED SILICA | Ingestion | Rat | LD50 > 5,110 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 |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Dermal | Rat | LD50 > 2,000 mg/kg |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Ingestion | Rat | LD50 > 2,000 mg/kg |
| 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 |
| HYDROQUINONE | Dermal | Rat | LD50 > 4,800 mg/kg |
| HYDROQUINONE | Ingestion | Rat | LD50 302 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|------------------|---------------------------|
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Guinea pig | Mild irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Minimal irritation |
| SILANE TREATED SILICA | Rabbit | No significant irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | No significant irritation |
| TRIPHENYLANTIMONY | Rabbit | Minimal irritation |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Rabbit | No significant irritation |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |
| HYDROQUINONE | Human and animal | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|------------------------|---------------------------|
| TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA) | Professional judgement | Moderate irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Moderate irritant |
| SILANE TREATED SILICA | Rabbit | No significant irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | Mild irritant |
| TRIPHENYLANTIMONY | Rabbit | Mild irritant |
| ETHYL 4-DIMETHYL AMINO BENZOATE (EDMAB) | Rabbit | Mild irritant |
| TITANIUM DIOXIDE | Rabbit | No significant irritation |
| HYDROQUINONE | Human | Corrosive |

Skin Sensitization

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

Respiratory Sensitization

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

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| 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 |
| SILANE TREATED SILICA | In Vitro | Not mutagenic |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 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 |
| HYDROQUINONE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| HYDROQUINONE | In vivo | 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 |
| SILANE TREATED SILICA | Not Specified | Mouse | 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 |
| HYDROQUINONE | Dermal | Mouse | Not carcinogenic |
| HYDROQUINONE | 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 |
|--|-----------|--|---------|-------------------|-------------------|
| 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 | Ingestion | Not classified for female reproduction | Mouse | NOAEL 0.8 | prematuring & |

| | | | | | |
|--|-----------|--|-------|-----------------------|------------------------------|
| DIMETHACRYLATE (BISGMA) | | | | mg/kg/day | during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for male reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematemg & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for development | Mouse | NOAEL 0.8 mg/kg/day | prematemg & during gestation |
| SILANE TREATED SILICA | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| HYDROQUINONE | Ingestion | Not classified for female reproduction | Rat | NOAEL 150 mg/kg/day | 2 generation |
| HYDROQUINONE | Ingestion | Not classified for male reproduction | Rat | NOAEL 150 mg/kg/day | 2 generation |
| HYDROQUINONE | Ingestion | Not classified for development | Rat | NOAEL 100 mg/kg/day | during organogenesis |

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 | |
| HYDROQUINONE | Ingestion | nervous system | May cause damage to organs | Rat | NOAEL Not available | not applicable |
| HYDROQUINONE | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 400 mg/kg | not applicable |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|---|--|---------|---------------------|------------------------------|
| 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 | prematemg & during gestation |
| SILANE TREATED SILICA | Inhalation | respiratory system silicosis | 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 |
| HYDROQUINONE | Ingestion | blood | Not classified | Rat | NOAEL Not available | 40 days |
| HYDROQUINONE | Ingestion | bone marrow liver | Not classified | Rat | NOAEL Not available | 9 weeks |
| HYDROQUINONE | Ingestion | kidney and/or bladder | Not classified | Rat | LOAEL 50 mg/kg/day | 15 months |
| HYDROQUINONE | Ocular | eyes | 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

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

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: 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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