



Safety Data Sheet

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Document Group:	41-7750-7	Version Number:	1.01
Issue Date:	08/20/20	Supersedes Date:	07/20/20

Product identifier

3M™ RelyX™ Universal Trail Kit

ID Number(s):

UU-0108-8516-6, UU-0109-0316-7

7100225679, 7100225683

Recommended use

Dental Product, Dental Cement

Restrictions on use

For use only by dental professionals in approved indications.

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, 41-5463-9, 41-5399-5, 41-4437-4

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Document Group:	29-8286-6	Version Number:	4.01
Issue Date:	09/16/20	Supersedes Date:	11/06/18

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchbond™ Universal Etchant (41263)

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.

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

<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

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:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
ALUMINUM OXIDE	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
POLYETHYLENE GLYCOL	25322-68-3	AIHA	TWA(as aerosol):10 mg/m3	
PHOSPHORIC ACID	7664-38-2	ACGIH	TWA:1 mg/m3;STEL:3 mg/m3	
PHOSPHORIC ACID	7664-38-2	OSHA	TWA:1 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

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

Use in a well-ventilated area.

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

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

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state
Color

Liquid
Blue

Specific Physical Form:

Gel

Odor

Slight Odor, Characteristic Odor

Odor threshold

No Data Available

pH

< 1

Melting point

Not Applicable

Boiling Point

No Data Available

Flash Point

> 100 °C [Test Method:Closed Cup]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

No Data Available

Vapor Density

No Data Available

Density

1.1 - 1.2 g/ml

Specific Gravity

1.1 - 1.2 [Ref Std:WATER=1]

Solubility in Water

Complete

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

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 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,	Dermal	Rabbit	LD50 > 5,000 mg/kg

CRYSTALLINE FREE			
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):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
ALUMINUM OXIDE	1344-28-1	Trade Secret < 2

15.2. State Regulations

Contact 3M for more information.

California Proposition 65

Ingredient ETHYLENE GLYCOL (INGESTED)	C.A.S. No. 107-21-1	Listing Developmental Toxin
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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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Document Group:	41-4437-4	Version Number:	2.02
Issue Date:	08/19/20	Supersedes Date:	04/21/20

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchbond™ Universal Plus Vial (41294, 41295, 41296, 41307)

Product Identification Numbers

UU-0109-6374-0, UU-0109-6375-7, UU-0109-6376-5
4100046864, 4100047017, 4100046863

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, For use only by dental professionals in approved indications

Restrictions on use

Dental Adhesive

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 1.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion | Exclamation mark |

Pictograms**Hazard Statements**

Extremely flammable liquid and vapor.

Causes serious eye damage.

Causes skin irritation.

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.

Avoid breathing vapors.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

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.

Take off contaminated clothing and wash it 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-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	2305048-54-6	25 - 35 Trade Secret *
2-HYDROXYETHYL METHACRYLATE	868-77-9	15 - 25 Trade Secret *

2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2	< 20 Trade Secret *
2-Propenoic acid, 2-methyl-, 3-(triethoxysilyl)propyl ester and (3-aminopropyl)triethoxysilane, reaction products with vitreous silica	None	5 - 15 Trade Secret *
ETHANOL	64-17-5	5 - 15 Trade Secret *
WATER	7732-18-5	5 - 15 Trade Secret *
CAMPHORQUINONE	10373-78-1	< 2 Trade Secret *
COPOLYMER OF ACRYLIC AND ITACONIC ACID	25948-33-8	< 2 Trade Secret *
N,N-DIMETHYLBENZOCAINE	10287-53-3	< 2 Trade Secret *
(3-AMINOPROPYL)TRIETHOXSILANE	919-30-2	< 0.5 Trade Secret *
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	< 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:

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

Condition

During Combustion
During Combustion
During Combustion
During Combustion

Oxides of Nitrogen

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 that is resistant to polar solvents. 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. Take precautionary measures against static discharge. 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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

Store 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
COPPER COMPOUNDS	6046-93-1	ACGIH	TWA(as Cu, fume):0.2 mg/m ³ ;TWA(as Cu dust or mist):1 mg/m ³	
ETHANOL	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.

ETHANOL	64-17-5	OSHA	TWA: 1900 mg/m ³ (1000 ppm)
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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

Appearance

Physical state

Liquid

Color

Yellow

Specific Physical Form:

Viscous Liquid

Odor

Alcohol

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point

> 78 °C

Flash Point

Approximately 21 °C [Test Method: Closed Cup]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

No Data Available

Vapor Density

No Data Available

Density

Approximately 1.1 g/cm³

Specific Gravity

Approximately 1.1

Solubility in Water

Appreciable

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

Not Applicable

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

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:

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

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
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	Professional judgment	LD50 NA mg/kg
Overall product	Ingestion	Rat	LD50 > 9,090 mg/kg
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Rat	LD50 > 2,000 mg/kg
2-HYDROXYETHYL METHACRYLATE	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-HYDROXYETHYL METHACRYLATE	Ingestion	Rat	LD50 5,564 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 phosphorus oxide (P2O5)	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Ingestion	Rat	LD50 > 2,000 mg/kg
CAMPHORQUINONE	Dermal	Professional judgment	LD50 estimated to be 2,000 - 5,000 mg/kg
CAMPHORQUINONE	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
N,N-DIMETHYLBENZOCAINE	Dermal	Rat	LD50 > 2,000 mg/kg
N,N-DIMETHYLBENZOCAINE	Ingestion	Rat	LD50 > 2,000 mg/kg
(3-AMINOPROPYL)TRIETHOXSILANE	Dermal	Rabbit	LD50 4,290 mg/kg
(3-AMINOPROPYL)TRIETHOXSILANE	Ingestion	Rat	LD50 1,570 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Irritant
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vitro data	Irritant
2-HYDROXYETHYL METHACRYLATE	Rabbit	Minimal irritation
ETHANOL	Rabbit	No significant irritation

2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	In vitro data	Corrosive
N,N-DIMETHYLBENZOCAINE	Rabbit	No significant irritation
(3-AMINOPROPYL)TRIETHOXYSILANE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vitro data	No significant irritation
2-HYDROXYETHYL METHACRYLATE	Rabbit	Moderate irritant
ETHANOL	Rabbit	Severe irritant
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	In vitro data	Corrosive
N,N-DIMETHYLBENZOCAINE	Rabbit	Mild irritant
(3-AMINOPROPYL)TRIETHOXYSILANE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Professional judgement	Sensitizing
2-HYDROXYETHYL METHACRYLATE	Human and animal	Sensitizing
ETHANOL	Human	Not classified
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Professional judgement	Sensitizing
(3-AMINOPROPYL)TRIETHOXYSILANE	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
Overall product	In Vitro	Not mutagenic
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vivo	Not mutagenic
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-HYDROXYETHYL METHACRYLATE	In vivo	Not mutagenic
2-HYDROXYETHYL METHACRYLATE	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 phosphorus 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-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring into lactation
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematuring into lactation
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
ETHANOL	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	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
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
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 phosphorus 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
Overall product	Ingestion	heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic	Not classified	Rat	NOAEL 0.00212 mg/kg/day	28 days

		system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system				
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
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, utilize an acceptable permitted waste disposal 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

Skin Corrosion or 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: 3 **Flammability:** 4 **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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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ RelyX™ Universal Resin Cement Catalyst Paste

Product Identification Numbers

LE-F100-2884-2

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Resin cement

Restrictions on use

For use only by dental professionals in approved indications

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

2.1. Hazard classification

Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms

**Hazard Statements**

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Wear protective gloves.

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

Response:

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

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

Wash contaminated clothing before reuse.

Disposal:

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

1% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Diurethanedimethacrylate	72869-86-4	20 - 40 Trade Secret *
Ytterbium (III) fluoride	13760-80-0	30 - 40 Trade Secret *
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	None	15 - 30 Trade Secret *
Triethylene glycol dimethacrylate	109-16-0	< 10 Trade Secret *
L-Ascorbic acid, 6-hexadecanoate, hydrate (1:2)	2094655-53-3	< 5 Trade Secret *
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	< 5 Trade Secret *
2-hydroxyethyl methacrylate	868-77-9	< 1 Trade Secret *
Titanium Dioxide	13463-67-7	< 1 Trade Secret *
Triphenyl Phosphite	101-02-0	< 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:

No need for first aid is anticipated.

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
Irritant Vapors or Gases

Condition

During Combustion
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. 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.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
 AIHA : American Industrial Hygiene Association
 CMRG : Chemical Manufacturer's Recommended Guidelines
 OSHA : United States Department of Labor - Occupational Safety and Health Administration
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Solid

Color

Yellow

Specific Physical Form:

Paste

Odor

Slight Acrylic

Odor threshold

No Data Available

pH

Not Applicable

Melting point

No Data Available

Boiling Point	<i>Not Applicable</i>
Flash Point	Flash point > 93 °C (200 °F)
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	Approximately 2.1 g/cm ³ [Details:20°C]
Specific Gravity	Approximately - 2.1 [Ref Std:WATER=1]
Solubility in Water	Negligible
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	10 - 100 Pa-s

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 oxidizing agents

10.6. Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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:

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
Ytterbium (III) fluoride	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
Ytterbium (III) fluoride	Ingestion	Rat	LD50 > 5,000 mg/kg
Diurethanedimethacrylate	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
Diurethanedimethacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Triethylene glycol dimethacrylate	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
Triethylene glycol dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
Triphenyl Phosphite	Dermal	Rabbit	LD50 > 2,000 mg/kg
Triphenyl Phosphite	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Triphenyl Phosphite	Ingestion	Rat	LD50 1,590 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
2-hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Professional judgement	No significant irritation
Triethylene glycol dimethacrylate	Guinea pig	Mild irritant
Triphenyl Phosphite	Rabbit	Irritant
Titanium Dioxide	Rabbit	No significant irritation
2-hydroxyethyl methacrylate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ytterbium (III) fluoride	Professional judgement	Mild irritant
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Professional judgement	No significant irritation
Triethylene glycol dimethacrylate	Professional judgement	Moderate irritant
Triphenyl Phosphite	Rabbit	Moderate irritant
Titanium Dioxide	Rabbit	No significant irritation
2-hydroxyethyl methacrylate	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Diurethanedimethacrylate	Guinea pig	Sensitizing
Triethylene glycol dimethacrylate	Human and animal	Sensitizing
Triphenyl Phosphite	Mouse	Sensitizing
Titanium Dioxide	Human and animal	Not classified
2-hydroxyethyl methacrylate	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
Triethylene glycol dimethacrylate	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
2-hydroxyethyl methacrylate	In vivo	Not mutagenic

2-hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
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Carcinogenicity

Name	Route	Species	Value
Triethylene glycol dimethacrylate	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	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
Triethylene glycol dimethacrylate	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
Triethylene glycol dimethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Triethylene glycol dimethacrylate	Dermal	kidney and/or bladder blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
Triphenyl Phosphite	Ingestion	nervous system	May cause damage to organs through prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
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

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.

The components of this product are in compliance with the chemical notification requirements of TSCA. 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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Safety Data Sheet

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Document Group:	41-5463-9	Version Number:	2.00
Issue Date:	04/16/20	Supersedes Date:	04/15/20

SECTION 1: Identification

1.1. Product identifier

3M™ RelyX™ Universal Resin Cement Base Paste

Product Identification Numbers

LE-F100-2886-1

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Dental Cement

Restrictions on use

For use only by dental professionals in approved indications

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 1.

Skin Corrosion/Irritation: Category 2.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark |

Pictograms**Hazard Statements**

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

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

Wear protective gloves and eye/face protection.

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 ON SKIN: Wash with plenty of soap and water.

Immediately call a POISON CENTER or doctor/physician.

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

Take off contaminated clothing and wash it before reuse.

Storage:

Store at temperatures not exceeding 25C/77F. Keep cool.

Disposal:

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

37% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXYSYLYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	122334-95-6	20 - 35 Trade Secret *
DIURETHANDIMETHACRYLATE	72869-86-4	20 - 35 Trade Secret *
TRIETHYLENE GLYCOL DIMETHACRYLATE	109-16-0	20 - 35 Trade Secret *
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	1224866-76-5	5 - 15 Trade Secret *
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	1 - 10 Trade Secret *
t-AMYL HYDROPEROXIDE	3425-61-4	< 2.5 Trade Secret *
2,6-DI-TERT-BUTYL-P-CRESOL	128-37-0	< 1 Trade Secret *
2-hydroxyethyl methacrylate	868-77-9	< 0.5 Trade Secret *

Methyl Methacrylate	80-62-6	< 0.5 Trade Secret *
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	< 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:

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. 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
Irritant Vapors or Gases

Condition

During Combustion
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. 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.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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
2,6-DI-TERT-BUTYL-P-CRESOL	128-37-0	ACGIH	TWA(inhalable fraction and vapor):2 mg/m ³	A4: Not class. as human carcin
COPPER COMPOUNDS	6046-93-1	ACGIH	TWA(as Cu dust or mist):1 mg/m ³ ;TWA(as Cu, fume):0.2 mg/m ³	
Methyl Methacrylate	80-62-6	ACGIH	TWA:50 ppm;STEL:100 ppm	Dermal Sensitizer, A4: Not class. as human carcin
Methyl Methacrylate	80-62-6	OSHA	TWA:410 mg/m ³ (100 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

Appearance

Physical state

Solid

Color

White

Specific Physical Form:

Paste

Odor

Slight Acrylic

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

Not Applicable

Flash Point

Flash point > 93 °C (200 °F)

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

No Data Available

Vapor Density

No Data Available

Density

Approximately - 2 g/cm³

Specific Gravity

Approximately - 2 [Ref Std: WATER=1]

Solubility in Water

Negligible

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

10 - 100 Pa-s

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 oxidizing agents

10.6. Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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

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:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
 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 Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	Professio	LD50 estimated to be > 5,000 mg/kg

		nal judgeme nt	
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Rat	LD50 10,837 mg/kg
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
DIURETHANDIMETHACRYLATE	Dermal	Professio nal judgeme nt	LD50 estimated to be > 5,000 mg/kg
DIURETHANDIMETHACRYLATE	Ingestion	Rat	LD50 > 5,000 mg/kg
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	Dermal		LD50 estimated to be > 5,000 mg/kg
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	Ingestion	Rat	LD50 > 2,000 mg/kg
t-AMYL HYDROPEROXIDE	Dermal	Rat	LD50 354 mg/kg
t-AMYL HYDROPEROXIDE	Inhalation-Vapor (4 hours)	Rat	LC50 2.4 mg/l
t-AMYL HYDROPEROXIDE	Ingestion	Rat	LD50 483 mg/kg
2,6-DI-TERT-BUTYL-P-CRESOL	Dermal	Rat	LD50 > 2,000 mg/kg
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	Rat	LD50 > 2,930 mg/kg
2-hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Methyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
Methyl Methacrylate	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Methyl Methacrylate	Ingestion	Rat	LD50 7,900 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE	Guinea pig	Mild irritant
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Rabbit	No significant irritation
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	Rabbit	Minimal irritation
t-AMYL HYDROPEROXIDE	Rabbit	Corrosive
2,6-DI-TERT-BUTYL-P-CRESOL	Human and animal	Minimal irritation
2-hydroxyethyl methacrylate	Rabbit	Minimal irritation
Methyl Methacrylate	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	In vitro data	Corrosive
TRIETHYLENE GLYCOL DIMETHACRYLATE	Professio nal judgeme nt	Moderate irritant

2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Rabbit	No significant irritation
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	Rabbit	Corrosive
t-AMYL HYDROPEROXIDE	Rabbit	Corrosive
2,6-DI-TERT-BUTYL-P-CRESOL	Rabbit	Mild irritant
2-hydroxyethyl methacrylate	Rabbit	Moderate irritant
Methyl Methacrylate	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE	Human and animal	Sensitizing
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Human and animal	Not classified
DIURETHANDIMETHACRYLATE	Guinea pig	Sensitizing
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	Guinea pig	Not classified
t-AMYL HYDROPEROXIDE	similar compounds	Sensitizing
2,6-DI-TERT-BUTYL-P-CRESOL	Human	Not classified
2-hydroxyethyl methacrylate	Human and animal	Sensitizing
Methyl Methacrylate	Human and animal	Sensitizing

Respiratory Sensitization

Name	Species	Value
Methyl Methacrylate	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	In Vitro	Not mutagenic
MIXTURE OF MONO- DI- AND TRI- GLYCEROL DIMETHACRYLATE ESTER OFPHOSPHORIC ACID	In Vitro	Not mutagenic
t-AMYL HYDROPEROXIDE	In vivo	Not mutagenic
t-AMYL HYDROPEROXIDE	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,6-DI-TERT-BUTYL-P-CRESOL	In Vitro	Not mutagenic
2,6-DI-TERT-BUTYL-P-CRESOL	In vivo	Not mutagenic
2-hydroxyethyl methacrylate	In vivo	Not mutagenic
2-hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methyl Methacrylate	In vivo	Not mutagenic
Methyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	Mouse	Not carcinogenic
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Methyl Methacrylate	Ingestion	Rat	Not carcinogenic
Methyl Methacrylate	Inhalation	Human and animal	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
t-AMYL HYDROPEROXIDE	Ingestion	Not classified for female reproduction	Rat	NOAEL 100 mg/kg/day	premat ing into lactation
t-AMYL HYDROPEROXIDE	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg/day	5 weeks
t-AMYL HYDROPEROXIDE	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	premat ing into lactation
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	2 generation
2-hydroxyethyl methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premat ing & 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	premat ing & during gestation
Methyl Methacrylate	Inhalation	Not classified for male reproduction	Mouse	NOAEL 36.9 mg/l	
Methyl Methacrylate	Inhalation	Not classified for development	Rat	NOAEL 8.3 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Methyl Methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
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Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	kidney and/or bladder blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
2-PROPENOIC ACID, 2-METHYL-, 3-(TRIMETHOXYSILYL)PROPYL ESTER, REACTION PRODUCTS WITH VITREOUS SILICA	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
t-AMYL HYDROPEROXIDE	Inhalation	endocrine system liver immune system kidney and/or bladder hematopoietic system nervous system	Not classified	Rat	NOAEL 0.337 mg/l	28 days
t-AMYL HYDROPEROXIDE	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	5 weeks
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	28 days
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	blood	Not classified	Rat	LOAEL 420 mg/kg/day	40 days
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	endocrine system	Not classified	Rat	NOAEL 25 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL	Ingestion	heart	Not classified	Mouse	NOAEL 3,480 mg/kg/day	10 weeks
Methyl Methacrylate	Dermal	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
Methyl Methacrylate	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Methyl Methacrylate	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	14 weeks
Methyl Methacrylate	Inhalation	liver	Not classified	Mouse	NOAEL 12.3 mg/l	14 weeks
Methyl Methacrylate	Inhalation	respiratory system	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

Skin Corrosion or 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.

The components of this product are in compliance with the chemical notification requirements of TSCA. 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:** 1 **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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