SAFETY DATA SHEETS

This SDS packet was issued with item:

075038740

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).

075034202 075034210 075034228 075035001 075035019 075035027 075035035 075035506 075035514 075035522 075035530 075035548 075035555 075036322 075036413 075036421 075036439 075038625 075038633 075038641 075038658 075038666 075038674 075038682 075038690 075038732 075038757 079367442 079367444 079367446 079367450 079367452 079367458 079367461 079367464 079367467 079367478 079367481 273007026 273009774 273015030 273016431 273016443 273020314 273022590 273023185

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ ESPE™ RelyX™ Unicem Aplicap/Maxicap Powder
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: 01/15/13
Supercedes Date: 10/08/12

Document Group: 18-0262-8

Product Use:

Intended Use:	Dental Product
Limitations on Use:	For use only by dental professionals.
Specific Use:	Dental universal luting material.

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
SILANIZED GLASS POWDER	65997-17-3	85 - 95
SILANE TREATED SILICA	122334-95-6	5 - 10
SUBSTITUTED PYRIMIDINE	72846-00-5	1 - 5
CALCIUM HYDROXIDE	1305-62-0	< 3
SODIUM PERSULFATE	7775-27-1	< 1
TITANIUM DIOXIDE	13463-67-7	< 0.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Powder
Odor, Color, Grade: Odorless powders of different colors.
General Physical Form: Solid
Immediate health, physical, and environmental hazards: May cause allergic skin reaction. May cause allergic respiratory reaction. Contains a chemical or chemicals which can cause cancer. 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:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:
Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

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

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

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

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

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

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

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.
Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.
Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.
If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*Not Applicable*
Flash Point	*Not Applicable*
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*

5.2 EXTINGUISHING MEDIA
Non-combustible. Choose material suitable for surrounding fire.

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: Not applicable.

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
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. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue.

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

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid eye contact with dust or airborne particles. Avoid prolonged or repeated skin contact.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Not applicable. Do not use in a confined area or areas with little or no air movement.

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. Avoid prolonged or repeated skin contact. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves not normally required.

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 eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Not applicable. Do not ingest.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
CALCIUM HYDROXIDE	ACGIH	TWA	5 mg/m3	
CALCIUM HYDROXIDE	OSHA	TWA, respirable fraction	5 mg/m3	
CALCIUM HYDROXIDE	OSHA	TWA, as total dust	15 mg/m3	
SILANIZED GLASS POWDER	Manufacturer determined	TWA, as dust	10 mg/m3	
PERSULFATE COMPOUNDS	ACGIH	TWA, as persulfate	0.1 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:	Powder
Odor, Color, Grade:	Odorless powders of different colors.
General Physical Form:	Solid
Autoignition temperature	*Not Applicable*
Flash Point	*Not Applicable*
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Boiling Point	*Not Applicable*
Density	> 1 g/ml
Vapor Density	*Not Applicable*
Vapor Pressure	*Not Applicable*
Specific Gravity	*No Data Available*
pH	*Not Applicable*

Melting point	*No Data Available*
Solubility in Water	Negligible
Evaporation rate	*Not Applicable*
Kow - Oct/Water partition coef	*No Data Available*
Viscosity	*Not Applicable*

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

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

10.2 Materials to avoid
None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
None known.	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: For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. For larger quantities: incinerate in an industrial or commercial facility in the presence of a combustible material.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14:TRANSPORT INFORMATION

LE-FSF6-5681-1, LE-FSF6-5681-2, LE-FSFD-5682-2

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

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS
Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

STATE REGULATIONS
Contact 3M for more information.

CALIFORNIA PROPOSITION 65

Ingredient	C.A.S. No.	Classification
TITANIUM DIOXIDE	13463-67-7	**Carcinogen

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES
This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

INTERNATIONAL REGULATIONS
Contact 3M for more information.

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

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification
Health: 2 **Flammability:** 0 **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 3: Potential effects from skin contact information was modified.
Section 3: Potential effects from inhalation information was modified.
Section 13: Waste disposal method information was modified.

Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 3: Carcinogenicity table was modified.
Section 15: California proposition 65 ingredient information was modified.
Section 6: Personal precautions information was modified.
Section 6: Environmental procedures information was modified.
Section 6: Methods for cleaning up information was modified.
Copyright was modified.

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3M USA MSDSs are available at www.3M.com

MSDS Manufacturer Number:	**18-0262-8**
MANUFACTURER NAME:	**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)**
ISSUED:	**02/24/10**
SUPERSEDES:	**09/10/03**
Specific Use:	**Dental universal luting material.**
Intended Use:	**Dental Product Limitations on Use: For use only by dental professionals.**

ADDRESS:	**3M Center**
ADDRESS CITY:	**St. Paul,**
ADDRESS STATE:	**MN**
ADDRESS ZIP:	**55144-1000**
BUSINESS PHONE:	**1-800-364-3577 or (651) 737-6501 (24 hours)**
PRODUCT NAME:	**3M ESPE RelyX Unicem Aplicap/Maxicap Powder**
TRADE NAME:	**3MTM ESPETM RelyXTM UnicemTM Aplicap/Maxicap Powder**

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS#	Ingredient Percent
SILANIZED GLASS POWDER	65997-17-3	85 - 95 by Weight
SILANE TREATED SILICA	122334-95-6	5 - 10 by Weight
SUBSTITUTED PYRIMIDINE	Trade Secret	1 - 5 by Weight
CALCIUM HYDROXIDE	1305-62-0	1 - 5 by Weight
SODIUM PERSULFATE	7775-27-1	< 1 by Weight

SECTION 3 - HAZARDS IDENTIFICATION

Specific Physical Form:	**Powder**
Odor, Color, Grade:	**Odorless powders of different colors.**
General Physical Form:	**Solid**
Immediate health, physical, and environmental hazards:	**May cause allergic skin reaction. May cause allergic respiratory reaction. Contains a chemical or chemicals which can cause cancer. 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.**
EYE CONTACT:	**Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.**
SKIN CONTACT:	**Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.**
INHALATION:	**Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.**
INGESTION:	**Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.**
Carcinogenicity:	**Contains a chemical or chemicals which can cause cancer.**
Carcinogenicity of Ingredients:	**GLASSWOOL FIBERS (AIRBORNE PARTICLES OF RESPIRABLE SIZE): (CAS: NONE; Class Description: Grp. 2B: Possible human carc.; Regulation: International Agency for Research on Cancer;) GLASSWOOL FIBERS (AIRBORNE PARTICLES OF RESPIRABLE SIZE): (CAS: NONE; Class Description: Anticipated human carcinogen; Regulation: National Toxicology Program Carcinogens;)**

SECTION 4 - FIRST AID MEASURES

EYE CONTACT:	**Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.**
SKIN CONTACT:	**Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.**
INHALATION:	**Remove person to fresh air. If signs/symptoms develop, get medical attention.**

INGESTION:	**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.**
First Aid Comments:	**The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.**

SECTION 5 - FIRE FIGHTING MEASURES

AUTOIGNITION TEMPERATURE:	**Not Applicable**
FLASH POINT:	**Not Applicable**
FLAMMABLE LIMITS - LEL:	**No Data Available**
FLAMMABLE LIMITS - UEL:	**No Data Available**
EXTINGUISHING MEDIA:	**Non-combustible. Choose material suitable for surrounding fire.**
SPECIAL FIRE FIGHTING PROCEDURES:	**Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).**
UNUSUAL FIRE AND EXPLOSION HAZARDS:	**Not applicable.**
Note:	**See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.**

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:	**Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue. In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

SECTION 7 - HANDLING and STORAGE

HANDLING:	**Avoid eye contact. Avoid prolonged or repeated skin contact.**
STORAGE:	**Not applicable.**

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Guideline Info:	**10 mg/m3**
Ingredient:	**PERSULFATE COMPOUNDS**
Guideline Type:	**ACGIH TWA, as persulfate**
Guideline Info:	**0.1 mg/m3**
Guideline Type:	**OSHA TWA, as total dust**
Guideline Info:	**15 mg/m3**
Ingredient:	**SILANIZED GLASS POWDER**
Guideline Type:	**3M TWA, as dust**
Ingredient:	**CALCIUM HYDROXIDE**
Guideline Type:	**ACGIH TWA**
Guideline Info:	**5 mg/m3**
Ingredient:	**CALCIUM HYDROXIDE**
Guideline Type:	**OSHA TWA, respirable fraction**
Guideline Info:	**5 mg/m3**
Ingredient:	**CALCIUM HYDROXIDE**
Prevention of Swallowing:	**Not applicable. Do not ingest.**
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**

Odor, Color, Grade:	**Odorless powders of different colors.**
General Physical Form:	**Solid**
Autoignition temperature:	**Not Applicable**
Flash Point:	**Not Applicable**
Flammable Limits - LEL:	**No Data Available**
Flammable Limits - UEL:	**No Data Available**
BOILING POINT:	**Not Applicable**
DENSITY:	**> 1 g/ml**
VAPOR DENSITY:	**Not Applicable**
VAPOR PRESSURE:	**Not Applicable**
SPECIFIC GRAVITY:	**No Data Available**
pH:	**Not Applicable**
MELTING POINT:	**No Data Available**
EVAPORATION RATE:	**Not Applicable**
VISCOSITY:	**Not Applicable**
SOLUBILITY IN WATER:	**Negligible**
Specific Physical Form:	**Powder**
Kow - Oct/Water partition coef:	**No Data Available**

SECTION 10 - STABILITY and REACTIVITY

STABILITY:	**Stable.**
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 PRODUCTS:	**Substance: None known. (Condition: During Combustion)**

SECTION 11 - TOXICOLOGICAL INFORMATION

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:	**Incinerate in an industrial or commercial facility in the presence of a combustible material. For quantities <100 lbs. (50kg): dispose of waste product in a sanitary landfill. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste. Since regulations vary, consult applicable regulations or authorities before disposal.**

information was modified. Section 8: Skin protection phrase was modified. Section 8: Prevention of swallowing information was modified. Section 13: Waste disposal method information was modified. Section 15: 311/312 hazard categories heading was modified. Section 15: International regulations information was modified. Section 15: State regulations information was modified. Section 15: US federal regulations information was modified. Section 4: First aid for skin contact - decontamination - was modified. Section 4: First aid for skin contact - medical assistance - was modified. Section 4: First aid for inhalation - termination of exposure - was modified. Section 10: Hazardous polymerization heading was modified. Section 16: NFPA explanation was modified. Page Heading: Product name was modified. Section 15: 311/312 Delayed Hazard score was modified. Section 15: Inventories information was modified. Section 12: Ecotoxicological information heading was modified. Section 12: Chemical fate information heading was modified. Section 16: NFPA hazard classification for special hazards was modified. Section 12: Ecotoxicological phrase was modified. Section 12: Chemical Fate phrase was modified. Section 3: Immediate inhalation hazard(s) was added. Section 3: Immediate skin hazard(s) was added. Section 4: First aid for skin contact - termination of exposure - was added. Section 4: First aid for skin contact - handling - was added. Section 3: Carcinogenicity phrase was added. Section 3: Immediate other hazard(s) was added. Section 9: Property description for optional properties was added. Section 2: Ingredient phrase was added. Section 14: ID Number(s) Template 1 was added. Section 2: Ingredient table was added. Section 8: Exposure guidelines ingredient information was added. Section 8: Exposure guidelines data source legend was added. Section 3: Carcinogenicity table was added. Section 3: Carcinogenicity heading was added. Section 15: California proposition 65 ingredient information was added. Section 15: California proposition 65 heading was added. Section 15: California proposition 65 cancer warning was added. Section 10.1 Conditions to avoid was added. Section 10.2 Materials to avoid was added. Section 6: Release measures information was added. Section 6: Release measures information was added. Section 6: Release measures information was added. Section 10: Materials to avoid physical property was added. Section 10: Conditions to avoid physical property was added. Section 8: Skin/ hand protection phrase was added. Section 3: Other potential health effects heading was deleted. Section 4: First aid for eye contact - termination of exposure - was deleted. Section 6: Release measures information was deleted. Section 10: Materials and conditions to avoid physical property was deleted. Section 3: Immediate other hazard(s) comment was deleted. Section 3: Other potential health effects was deleted.

Safety Data Sheet

Document Group:	17-9608-5	**Version Number:**	6.00
Issue Date:	03/03/15	**Supercedes Date:**	02/20/13

SECTION 1: Identification

1.1. Product identifier
3M™ ESPE™ RELYX™ UNICEM™ APLICAP/MAXICAP LIQUID

Product Identification Numbers
LE-FSF6-5681-0, LE-FSFD-5682-1

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, For use by dental professionals.

1.3. Supplier's details

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

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 4.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion | Exclamation mark |

Pictograms

Hazard Statements
Combustible liquid.

Causes serious eye damage.
May cause an allergic skin reaction.

Precautionary Statements

Prevention:
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves and eye/face protection.
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.
Wash contaminated clothing before reuse.
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:
Store in a well-ventilated place. Keep cool.

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

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	40 - 50 Trade Secret *
TRIETHYLENE GLYCOL DIMETHACRYLATE	109-16-0	25 - 35 Trade Secret *
SUBSTITUTED DIMETHACRYLATE	27689-12-9	20 - 30 Trade Secret *
COPPER ACETATE	6046-93-1	< 0.2 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

If Swallowed:
Rinse mouth. 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 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	Condition
Carbon monoxide	During Combustion
Carbon dioxide	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.

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. Collect as much of the spilled material as possible using non-sparking tools. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. 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.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. 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 dust or mist):1 mg/m3;TWA(as Cu, fume):0.2 mg/m3	

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

8.2. Exposure controls

8.2.1. Engineering controls
Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection
See Section 7.1 for additional information on skin protection.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Liquid
Odor, Color, Grade:	Clear yellow liquid with acrylate odor.
Odor threshold	*No Data Available*
pH	2.3
Melting point	*No Data Available*
Boiling Point	> 200 ºF
Flash Point	64 ºC [*Test Method:* Tagliabue 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	1.14 g/ml
Specific Gravity	1.14 [*Ref Std:* WATER=1]
Solubility In Water	< 63 g/l
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*
Percent volatile	*No Data Available*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be

reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.
The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

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:
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	Ingestion		No data available; calculated ATE > 5,000 mg/kg
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Ingestion	Rat	LD50 > 2,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Rat	LD50 10,837 mg/kg
SUBSTITUTED DIMETHACRYLATE	Dermal	Professional judgement	LD50 not applicable
SUBSTITUTED DIMETHACRYLATE	Ingestion	Rat	LD50 > 17,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Rabbit	Minimal irritation
TRIETHYLENE GLYCOL DIMETHACRYLATE	Guinea pig	Mild irritant
SUBSTITUTED DIMETHACRYLATE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Rabbit	Corrosive
TRIETHYLENE GLYCOL DIMETHACRYLATE	Professional judgement	Moderate irritant
SUBSTITUTED DIMETHACRYLATE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Guinea pig	Not sensitizing
TRIETHYLENE GLYCOL DIMETHACRYLATE	Human and animal	Sensitizing
SUBSTITUTED DIMETHACRYLATE	Guinea pig	Not 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
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	In Vitro	Not mutagenic
TRIETHYLENE GLYCOL DIMETHACRYLATE	In Vitro	Some positive data exist, but the data are not sufficient for classification
SUBSTITUTED DIMETHACRYLATE	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Not toxic to development	Mouse	NOAEL 1 mg/kg/day	1 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 833 mg/kg/day	78 weeks
TRIETHYLENE GLYCOL DIMETHACRYLATE	Dermal	blood	All data are negative	Mouse	NOAEL 833 mg/kg/day	78 weeks

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

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

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

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

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

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

15.2. State Regulations
Contact 3M for more information.

California Proposition 65

Ingredient	C.A.S. No.	Classification
Toluene	108-88-3	Female reproductive toxin
Toluene	108-88-3	Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

15.3. Chemical Inventories

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification
Health: 3 **Flammability:** 2 **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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