SAFETY DATA SHEETS

This SDS packet was issued with item:

075036322

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 075035001 075035019 075035027 075035035 075035506 075035514 075035522 075035530 075035548 075035555 075036306 075036314 075036330 075036439 075036512 075036520 075036538 075036546 075038625 075038633 075038641 075038658 075038666 075038674 075038682 075038690 075038732 075038740 075038757 079367442 079367444 079367446 079367450 079367452 079367458 079367461 079367464 079367467 079367478 079367481 273007026 273009774 273015030 273016431 273016443 273020314 273022590 273023185

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: SUPERSEDES: 02/24/10 09/10/03

Specific Use:

Dental universal luting material.

Intended Use:

Dental Product Limitations on Use: For use only by dental professionals.

http://www.actiocms.com/VIEW_MSDS/searchdetail.cfm?msds_id=671611&Language=1... 1/9/2013

Actiocms.com Page 8 of 12

ADDRESS: 3M Center ADDRESS CITY: St. Paul, ADDRESS STATE:

ADDRESS 7TD. 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
UBSTITUTED PYRIMIDINE	Trade Secret	1 - 5 by Weight
ALCIUM 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:

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; Cass Description: Anticipated human carcinogen; Regulation: National

Toxicology Program Carcinogens;)

SECTION 4 - FIRST AID MEASURES

Flush eyes with large amounts of water. If signs/symptoms persist, get **EYE CONTACT:**

medical attention.

Remove contaminated clothing and shoes. Immediately flush skin with SKIN CONTACT:

large amounts of water. Get medical attention. Wash contaminated

clothing and clean shoes before reuse.

Remove person to fresh air. If signs/symptoms develop, get medical INHALATION:

attention.

Actiocms.com Page 9 of 12

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 No Data Available

FLAMMABLE LIMITS - LEL: FLAMMABLE LIMITS - UFL:

No Data Available

EXTINGUISHING MEDIA: SPECIAL FIRE FIGHTING

Non-combustible. Choose material suitable for surrounding fire. Wear full protective equipment (Bunker Gear) and a self-contained

PROCEDURES: UNUSUAL FIRE AND

breathing apparatus (SCBA). Not applicable.

EXPLOSION HAZARDS:

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

OSHA TWA, as total dust **Guideline Type:**

Guideline Info: 15 mg/m3

SILANIZED GLASS POWDER Ingredient:

3M TWA, as dust Guideline Type: Ingredient: **CALCIUM HYDROXIDE**

ACGIH TWA Guideline Type: Guideline Info: 5 mg/m3

CALCIUM HYDROXIDE Ingredient:

OSHA TWA, respirable fraction **Guideline Type:**

Guideline Info: 5 mg/m3

CALCIUM HYDROXIDE Ingredient:

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

1/9/2013

Odor, Color, Grade: Odorless powders of different colors.

General Physical Form: Solid

Autoignition temperature: Not Applicable

Flash Point:

Flammable Limits - LEL:

Flammable Limits - UEL:

BOILING POINT:

Not Applicable

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 No Data Available

coef:

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 Hazardous polymerization will not occur. POLYMERIZATION:

HAZARDOUS DECOMPOSITION Substance: None known. (Condition: During Combustion)

PRODUCTS:

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 Not determined. INFORMATION:

CHEMICAL FATE Not determined. INFORMATION:

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.

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information was modified. Section 8: 5xin 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 aig ros 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 6S 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

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 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

 $3M^{TM}$ ESPE TM RELYX TM UNICEM TM 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 |

Page 1 of 9

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-	1224866-76-5	40 - 50 Trade Secret *
ester of phosphoric acid		
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

SubstanceConditionCarbon monoxideDuring CombustionCarbon dioxideDuring 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.

Page 3 of 9

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

Page 4 of 9

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 °F

Flash Point 64 °C [Test Method: Tagliabue Closed Cup]

Evaporation rateNo Data AvailableFlammability (solid, gas)Not ApplicableFlammable Limits(LEL)No Data AvailableFlammable Limits(UEL)No Data AvailableVapor PressureNo Data AvailableVapor DensityNo Data Available

Density 1.14 g/ml

Specific Gravity 1.14 [Ref Std: WATER=1]

Solubility In Water < 63 g/l

Solubility- non-waterNo Data AvailablePartition coefficient: n-octanol/ waterNo Data AvailableAutoignition temperatureNo Data AvailableDecomposition temperatureNo Data AvailableViscosityNo Data AvailablePercent volatileNo 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

<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

Page 5 of 9

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	Professio nal judgeme nt	LD50 estimated to be > 5,000 mg/kg
TRIETHYLENE GLYCOL DIMETHACRYLATE	Ingestion	Rat	LD50 10,837 mg/kg
SUBSTITUTED DIMETHACRYLATE	Dermal	Professio nal judgeme nt	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	Mild irritant
	pig	
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	Professio	Moderate irritant
	nal	
	judgeme	
	nt	
SUBSTITUTED DIMETHACRYLATE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Guinea	Not sensitizing
	pig	
TRIETHYLENE GLYCOL DIMETHACRYLATE	Human	Sensitizing
	and	
	animal	
SUBSTITUTED DIMETHACRYLATE	Guinea	Not sensitizing
	pig	

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

I	Name	Route	Species	Value
I	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	1 generation
TRIETHYLENE GLYCOL	Ingestion	Not toxic to male reproduction	Mouse	mg/kg/day NOAEL 1	1 generation
DIMETHACRYLATE TRIETHYLENE GLYCOL	Ingestion	Not toxic to development	Mouse	mg/kg/day NOAEL 1	1 generation
DIMETHACRYLATE				mg/kg/day	

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.	<u>Classification</u>
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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 Document Group:
 28-3764-9
 Version Number:
 1.02

 Issue Date:
 04/15/15
 Supercedes Date:
 10/11/11

Product identifier

3MTM ESPETM RelyX Unicem 2 Automix Value Pack

ID Number(s):

70-2011-3636-6, 70-2011-3660-6, 70-2011-4027-7, 70-2011-4028-5, 70-2011-4029-3

Recommended use

Dental Product, Dental Cement

Restrictions on use

For use only by dental professionals.

Supplier's details

MANUFACTURER: 3M

DIVISION: 3M ESPE Dental Products

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA **Telephone:** 1-888-3M HELPS (1-888-364-3577)

Emergency telephone number

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

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

28-1380-6, 28-1333-5

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 Document Group:
 28-1380-6
 Version Number:
 4.00

 Issue Date:
 09/07/15
 Supercedes Date:
 03/19/15

SECTION 1: Identification

1.1. Product identifier

3MTM ESPETM RelyXTM UNICEM 2 AUTOMIX Base Paste

Product Identification Numbers

LE-F100-0787-3, LE-F100-0787-4

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Cement

Restrictions on use

For use only 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

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Page 1 of 10

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.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Glass powder (65997-17-3), surface modified with 2-	None	45 - 55 Trade Secret *
propenoic acid, 2 methyl3-(trimethoxysilyl)propyl ester		
(2530-85-0) and phenyltrimethoxy silane (2996-92-1),		
bulk material		
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-	1224866-76-5	20 - 30 Trade Secret *
(HYDROXYMETHYL)-1,2-ETHANEDIYL] ESTER,		
REACTION PRODUCTS WITH 2-HYDROXY-1,3-		
PROPANEDIYL DIMETHACRYLATE AND		
PHOSPHORUS OXIDE		
TRIETHYLENE GLYCOL DIMETHACRYLATE	109-16-0	10 - 20 Trade Secret *
(TEGDMA)		
SILANE TREATED SILICA	68909-20-6	1 - 10 Trade Secret *
SODIUM PERSULFATE	7775-27-1	< 3 Trade Secret *
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	< 3 Trade Secret *
TERT-BUTYL PEROXY-3,5,5-	13122-18-4	< 0.5 Trade Secret *
TRIMETHYLHEXANOATE		
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:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance
Carbon monoxide
Carbon dioxide
Irritant Vapors or Gases

Condition

During Combustion During Combustion During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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.

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. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

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	
OXIDE GLASS CHEMICALS	65997-17-3	Manufacturer	TWA(as dust):10 mg/m3	
(non-fibrous)		determined		
SILICA, AMORPHOUS	68909-20-6	OSHA	TWA concentration:0.8	
			mg/m3;TWA:20 millions of	
			particles/cu. ft.	
PERSULFATE COMPOUNDS	7775-27-1	ACGIH	TWA(as persulfate):0.1 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.

Page 4 of 10

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:Specific Physical Form:

Paste

Odor, Color, Grade: toothcolored paste with slight acrylic odor

Odor threshold No Data Available pН Not Applicable **Melting point** No Data Available **Boiling Point** No Data Available **Flash Point** No flash point **Evaporation rate** No Data Available Not Classified Flammability (solid, gas) Flammable Limits(LEL) No Data Available Flammable Limits(UEL) No Data Available **Vapor Pressure** No Data Available **Vapor Density** No Data Available

Specific Gravity 2 - 2.2 [*Ref Std*: WATER=1]

Solubility in WaterNegligibleSolubility- non-waterNo Data AvailablePartition coefficient: n-octanol/ waterNo Data AvailableAutoignition temperatureNo Data AvailableDecomposition temperatureNo Data AvailableViscosityNo Data AvailablePercent volatileNo Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

Density

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

2 - 2.2 g/cm3

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Skin Contact:

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

Eve Contact:

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

Ingestion:

May be harmful if swallowed.

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

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic	Dermal		LD50 estimated to be > 5,000 mg/kg
acid, 2 methyl3-(trimethoxysilyl)propyl ester (2530-85-0) and			
phenyltrimethoxy silane (2996-92-1), bulk material			
Glass powder (65997-17-3), surface modified with 2-propenoic	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
acid, 2 methyl3-(trimethoxysilyl)propyl ester (2530-85-0) and			
phenyltrimethoxy silane (2996-92-1), bulk material			
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-	Ingestion	Rat	LD50 > 2,000 mg/kg
(HYDROXYMETHYL)-1,2-ETHANEDIYL] ESTER,			
REACTION PRODUCTS WITH 2-HYDROXY-1,3-			
PROPANEDIYL DIMETHACRYLATE AND PHOSPHORUS			
OXIDE			
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Professio	LD50 estimated to be > 5,000 mg/kg
		nal	
		judgeme	
		nt	
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Rat	LD50 10,837 mg/kg
SILANE TREATED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILANE TREATED SILICA	Inhalation-	Rat	LC50 > 0.691 mg/l
	Dust/Mist		
	(4 hours)		
SILANE TREATED SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg

3MTM ESPETM RelyXTM UNICEM 2 AUTOMIX Base Paste 09/07/15

OXIDE GLASS CHEMICALS (non-fibrous)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
SODIUM PERSULFATE	Dermal	Rabbit	LD50 > 10,000 mg/kg
SODIUM PERSULFATE	Inhalation-	Rat	LC50 > 47.93 mg/l
	Dust/Mist		
	(4 hours)		
SODIUM PERSULFATE	Ingestion	Rat	LD50 895 mg/kg
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Dermal	Rat	LD50 > 2,000 mg/kg
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Inhalation-	Rat	LC50 > 0.8 mg/l
	Dust/Mist		
	(4 hours)		
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Ingestion	Rat	LD50 12,905 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl3-	Professio	No significant irritation
(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-	nal	
1), bulk material	judgeme	
	nt	
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-(HYDROXYMETHYL)-1,2-	Rabbit	Minimal irritation
ETHANEDIYL] ESTER, REACTION PRODUCTS WITH 2-HYDROXY-1,3-		
PROPANEDIYL DIMETHACRYLATE AND PHOSPHORUS OXIDE		
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Guinea	Mild irritant
	pig	
SILANE TREATED SILICA	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professio	No significant irritation
	nal	
	judgeme	
	nt	
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Rabbit	No significant irritation

Serious Eve Damage/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl3-	Professio	No significant irritation
(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-	nal	
1), bulk material	judgeme	
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-(HYDROXYMETHYL)-1,2-	nt Rabbit	Corrosive
ETHANEDIYL] ESTER, REACTION PRODUCTS WITH 2-HYDROXY-1,3-	Kabbit	Corrosive
PROPANEDIYL DIMETHACRYLATE AND PHOSPHORUS OXIDE		
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Professio	Moderate irritant
	nal	
	judgeme	
	nt	
SILANE TREATED SILICA	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professio	No significant irritation
	nal	
	judgeme	
	nt	
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Rabbit	No significant irritation

Skin Sensitization

Skiii Schshization		
Name	Species	Value
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-(HYDROXYMETHYL)-1,2-	Guinea	Not sensitizing
ETHANEDIYL] ESTER, REACTION PRODUCTS WITH 2-HYDROXY-1,3-	pig	
PROPANEDIYL DIMETHACRYLATE AND PHOSPHORUS OXIDE		
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Human	Sensitizing
	and	
	animal	
SILANE TREATED SILICA	Human	Not sensitizing
	and	
	animal	
TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	Guinea	Sensitizing

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pig

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
2-PROPENOIC ACID, 2-METHYL-, 1,1'-[1-(HYDROXYMETHYL)-1,2-ETHANEDIYL] ESTER, REACTION PRODUCTS WITH 2-HYDROXY-1,3-PROPANEDIYL DIMETHACRYLATE AND PHOSPHORUS OXIDE	In Vitro	Not mutagenic
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	In Vitro	Some positive data exist, but the data are not sufficient for classification
SILANE TREATED SILICA	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Dermal	Mouse	Not carcinogenic
SILANE TREATED SILICA	Not	Mouse	Some positive data exist, but the data are not
	Specified		sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	Ingestion	Not toxic to development	Mouse	NOAEL 1 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesi s

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 (TEGDMA)	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 (TEGDMA)	Dermal	blood	All data are negative	Mouse	NOAEL 833 mg/kg/day	78 weeks
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

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

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility.

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.

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

3MTM ESPETM RelyXTM UNICEM 2 AUTOMIX Base Paste 09/07/15

NFPA Hazard Classification

Health: 2 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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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3MTM ESPETM RelyXTM UNICEM 2 AUTOMIX CATALYST

Product Identification Numbers

LE-F100-0785-6, LE-F100-0785-9

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Cement

Restrictions on use

For use only 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

Serious Eye Damage/Irritation: Category 2A.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Page 1 of 11

3MTM ESPETM RelyXTM UNICEM 2 AUTOMIX CATALYST 08/31/15

Exclamation mark |

Pictograms



Hazard Statements

Causes serious eye irritation.

May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Wear eye/face protection.

Wear protective gloves.

Wash thoroughly after handling.

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

Response:

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

Continue rinsing.

If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water.

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

Wash contaminated clothing before reuse.

Disposal:

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

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Glass powder (65997-17-3), surface modified with 2-	None	50 - 70 Trade Secret *
propenoic acid, 2 methyl3-(trimethoxysilyl)propyl ester		
(2530-85-0), bulk material		
SUBSTITUTED DIMETHACRYLATE	27689-12-9	10 - 30 Trade Secret *
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-	945012-02-2	< 5 Trade Secret *
(phenylmethyl)-, calcium salt (2:1)		
1,12-DODECANE DIMETHYCRYLATE	72829-09-5	< 5 Trade Secret *
SILANE TREATED SILICA	68909-20-6	< 5 Trade Secret *
SODIUM P-TOLUENESULFINATE	824-79-3	< 5 Trade Secret *
2-Propenoic acid, 2-methyl-, [(3-	93962-71-1	< 2 Trade Secret *
methoxypropyl)imino]di-2,1-ethanediyl ester		
CALCIUM HYDROXIDE	1305-62-0	< 2 Trade Secret *
Methacrylated Amine	93962-70-0	< 0.5 Trade Secret *
NUC - Titanium Dioxide	13463-67-7	< 0.5 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eve Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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.

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 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. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

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
CALCIUM HYDROXIDE	1305-62-0	ACGIH	TWA:5 mg/m3	
CALCIUM HYDROXIDE	1305-62-0	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
NUC - Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
NUC - Titanium Dioxide	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
NUC - Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
SILICA, AMORPHOUS	68909-20-6	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

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

TWA: Time-Weighted-Average STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Solid **Specific Physical Form:** Paste

Odor, Color, Grade: tooth-colored pastes with slight acrylic odor

Odor threshold No Data Available Not Applicable pН **Melting point** No Data Available **Boiling Point** No Data Available **Flash Point** No flash point **Evaporation rate** No Data Available Not Classified Flammability (solid, gas) Flammable Limits(LEL) No Data Available Flammable Limits(UEL) No Data Available **Vapor Pressure** No Data Available **Vapor Density** No Data Available **Density** 2 - 2.2 g/cm3

Specific Gravity 2 - 2.2 [*Ref Std:* WATER=1]

Solubility in Water Nil

Solubility- non-waterNo Data AvailablePartition coefficient: n-octanol/ waterNo Data AvailableAutoignition temperatureNo Data AvailableDecomposition temperatureNo Data AvailableViscosityNo Data AvailablePercent volatileNo 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

None known.

10.6. Hazardous decomposition products

<u>Substance</u> <u>Condition</u>

Page 5 of 11

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Skin Contact:

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

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed.

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

Additional Health Effects:

Carcinogenicity:

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

Contains a chemical or chemicals which can cause cancer.

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

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000

			mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic	Dermal		LD50 estimated to be > 5,000 mg/kg
acid, 2 methyl3-(trimethoxysilyl)propyl ester (2530-85-0), bulk			
material			
Glass powder (65997-17-3), surface modified with 2-propenoic	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
acid, 2 methyl3-(trimethoxysilyl)propyl ester (2530-85-0), bulk			
material			
SUBSTITUTED DIMETHACRYLATE	Dermal	Professio	LD50 estimated to be > 5,000 mg/kg
		nal	
		judgeme	
CLID CENTRATED DIA METHA CIDAN ATTE	T	nt	LD50 . 17 600 A
SUBSTITUTED DIMETHACRYLATE 1.12-DODECANE DIMETHYCRYLATE	Ingestion Dermal	Rat Professio	LD50 > 17,600 mg/kg
1,12-DODECANE DIMETHYCKYLATE	Dermai	nal	LD50 estimated to be 2,000 - 5,000 mg/kg
		judgeme	
		nt	
1,12-DODECANE DIMETHYCRYLATE	Ingestion	similar	LD50 2000-5000 mg/kg
1,12 DODECTIVE DIMETITIENTE	nigestion	compoun	LD30 2000 3000 mg/kg
		ds	
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-,	Dermal	Professio	LD50 estimated to be 2,000 - 5,000 mg/kg
calcium salt (2:1)		nal	
		judgeme	
		nt	
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-,	Ingestion	Rat	LD50 > 2,000 mg/kg
calcium salt (2:1)			
SILANE TREATED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILANE TREATED SILICA	Inhalation-	Rat	LC50 > 0.691 mg/l
	Dust/Mist		
CH AND THE ATED OH ICA	(4 hours)	D-4	LD50 > 5 110 /l
SILANE TREATED SILICA SODIUM P-TOLUENESULFINATE	Ingestion Dermal	Rat Professio	LD50 > 5,110 mg/kg LD50 estimated to be 2,000 - 5,000 mg/kg
SODIUM P-TOLUENESULFINATE	Dermai	nal	LD30 estimated to be 2,000 - 3,000 mg/kg
		judgeme	
		nt	
SODIUM P-TOLUENESULFINATE	Ingestion	Rat	LD50 3,200 mg/kg
CALCIUM HYDROXIDE	Dermal	Rabbit	LD50 > 2,500 mg/kg
CALCIUM HYDROXIDE	Ingestion	Rat	LD50 7,340 mg/kg
2-Propenoic acid, 2-methyl-, [(3-methoxypropyl)imino]di-2,1-	Dermal	Professio	LD50 estimated to be > 5,000 mg/kg
ethanediyl ester		nal	
		judgeme	
		nt	
2-Propenoic acid, 2-methyl-, [(3-methoxypropyl)imino]di-2,1-	Ingestion	Rat	LD50 > 1,600 mg/kg
ethanediyl ester			
NUC - Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
NUC - Titanium Dioxide	Inhalation-	Rat	LC50 > 6.82 mg/l
	Dust/Mist		
NIIG EN 1 DI 11	(4 hours)	D .	I D 50 10 000 /
NUC - Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Methacrylated Amine	Dermal	Professio	LD50 estimated to be > 5,000 mg/kg
		nal	
		judgeme nt	
Methacrylated Amine	Ingestion	Rat	LD50 > 400 mg/kg
ATE – acute toxicity estimate	nigestion	Rat	LDJ0 / TOO IIIg/Kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	Professio nal judgeme nt	No significant irritation
SUBSTITUTED DIMETHACRYLATE	Rabbit	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation
CALCIUM HYDROXIDE	Human	Corrosive
NUC - Titanium Dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl3-	Professio	No significant irritation
(trimethoxysilyl)propyl ester (2530-85-0), bulk material	nal	
	judgeme	
	nt	
SUBSTITUTED DIMETHACRYLATE	Rabbit	Mild irritant
SILANE TREATED SILICA	Rabbit	No significant irritation
CALCIUM HYDROXIDE	Rabbit	Corrosive
NUC - Titanium Dioxide	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
SUBSTITUTED DIMETHACRYLATE	Guinea	Not sensitizing
	pig	
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt	Mouse	Not sensitizing
(2:1) SILANE TREATED SILICA	Human	Not sensitizing
SILANE TREATED SILICA		Not sensitizing
	and	
	animal	
2-Propenoic acid, 2-methyl-, [(3-methoxypropyl)imino]di-2,1-ethanediyl ester	Professio	Sensitizing
	nal	
	judgeme	
	nt	
NUC - Titanium Dioxide	Human	Not sensitizing
	and	
	animal	
Methacrylated Amine	Professio	Sensitizing
	nal	
	judgeme	
	nt	

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
SUBSTITUTED DIMETHACRYLATE	In Vitro	Not mutagenic
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt	In Vitro	Not mutagenic
(2:1)		
SILANE TREATED SILICA	In Vitro	Not mutagenic
NUC - Titanium Dioxide	In Vitro	Not mutagenic
NUC - Titanium Dioxide	In vivo	Not mutagenic

Carcinogenicity

curemogenery			
Name	Route	Species	Value
SILANE TREATED SILICA	Not	Mouse	Some positive data exist, but the data are not
	Specified		sufficient for classification
NUC - Titanium Dioxide	Ingestion	Multiple	Not carcinogenic
		animal	
		species	
NUC - Titanium Dioxide	Inhalation	Rat	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Reproductive and/or Developmental Effects					
Name	Route	Value	Species	Test Result	Exposure Duration
SILANE TREATED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation

SILANE TREATED SILICA	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497	1 generation
				mg/kg/day	
SILANE TREATED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesi
					s

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2,4,6(1H,3H,5H)- Pyrimidinetrione, 5- phenyl-1-(phenylmethyl)-, calcium salt (2:1)	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,000 mg/kg	
CALCIUM HYDROXIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 2.5 mg/m3	20 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
NUC - 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
NUC - Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	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): Not regulated

SECTION 14: Transport Information

Page 9 of 11

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.

15.3. Chemical Inventories

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

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification

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

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

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