



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ RelyX™ Luting Plus Cement Paste B

Product Identification Numbers

LE-F100-0969-8

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Luting cement

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

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

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

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

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A.

Respiratory Sensitizer: Category 1.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Health Hazard |

Pictograms**Hazard Statements**

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

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

In case of inadequate ventilation wear respiratory protection.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

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

Response:

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

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.

88% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Silane Treated Ceramic	444758-98-9	30 - 40 Trade Secret *
2-Hydroxyethyl Methacrylate (HEMA)	868-77-9	10 - 30 Trade Secret *
Copolymer Of Acrylic And Itaconic Acids	25948-33-8	10 - 30 Trade Secret *
Water	7732-18-5	5 - 15 Trade Secret *
Glycerol 1,3 Dimethacrylate	1830-78-0	1 - 5 Trade Secret *
Potassium Diphosphate	7778-77-0	1 - 5 Trade Secret *
Potassium Persulfate	7727-21-1	1 - 5 Trade Secret *
2,6-Di-Tert-Butyl-P-Cresol (BHT)	128-37-0	< 0.5 Trade Secret *
Ethylene Dimethacrylate (EGDMA)	97-90-5	< 0.5 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eye Contact:

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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching).

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage including any incompatibilities

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
2,6-Di-Tert-Butyl-P-Cresol (BHT)	128-37-0	ACGIH	TWA(inhalable fraction and vapor):2 mg/m ³	A4: Not class. as human carcin
PERSULFATE COMPOUNDS	7727-21-1	ACGIH	TWA(as persulfate):0.1 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid
Color	Transparent Yellow
Specific Physical Form:	Paste
Odor	Characteristic Odor
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	1.5 g/cm ³
Specific Gravity	1.5 [Ref Std: WATER=1]
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Molecular weight	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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.

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

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:

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Silane Treated Ceramic	Dermal		LD50 estimated to be > 5,000 mg/kg
Silane Treated Ceramic	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Copolymer Of Acrylic And Itaconic Acids	Ingestion	Rat	LD50 > 5,000 mg/kg
Copolymer Of Acrylic And Itaconic Acids	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
2-Hydroxyethyl Methacrylate (HEMA)	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Hydroxyethyl Methacrylate (HEMA)	Ingestion	Rat	LD50 5,564 mg/kg
Glycerol 1,3 Dimethacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
Potassium Diphosphate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Potassium Diphosphate	Ingestion	Rat	LD50 > 4,640 mg/kg
Potassium Persulfate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Potassium Persulfate	Inhalation-Dust/Mist	Rat	LC50 > 10.7 mg/l

	(4 hours)		
Potassium Persulfate	Ingestion	Rat	LD50 1,130 mg/kg
Ethylene Dimethacrylate (EGDMA)	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Ethylene Dimethacrylate (EGDMA)	Ingestion	Rat	LD50 3,300 mg/kg
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Dermal	Rat	LD50 > 2,000 mg/kg
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	Rat	LD50 > 2,930 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Silane Treated Ceramic	similar compounds	No significant irritation
2-Hydroxyethyl Methacrylate (HEMA)	Rabbit	Minimal irritation
Glycerol 1,3 Dimethacrylate	Rabbit	No significant irritation
Ethylene Dimethacrylate (EGDMA)	Professional judgement	Mild irritant
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Human and animal	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Silane Treated Ceramic	similar compounds	Mild irritant
2-Hydroxyethyl Methacrylate (HEMA)	Rabbit	Moderate irritant
Glycerol 1,3 Dimethacrylate	In vitro data	Severe irritant
Ethylene Dimethacrylate (EGDMA)	Not available	Moderate irritant
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Silane Treated Ceramic	similar compounds	Not classified
2-Hydroxyethyl Methacrylate (HEMA)	Human and animal	Sensitizing
Glycerol 1,3 Dimethacrylate	Mouse	Not classified
Ethylene Dimethacrylate (EGDMA)	Guinea pig	Sensitizing
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Human	Not classified

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
2-Hydroxyethyl Methacrylate (HEMA)	In vivo	Not mutagenic
2-Hydroxyethyl Methacrylate (HEMA)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethylene Dimethacrylate (EGDMA)	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
2,6-Di-Tert-Butyl-P-Cresol (BHT)	In Vitro	Not mutagenic
2,6-Di-Tert-Butyl-P-Cresol (BHT)	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Silane Treated Ceramic	Inhalation	similar compounds	Some positive data exist, but the data are not sufficient for classification
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
2-Hydroxyethyl Methacrylate (HEMA)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
2-Hydroxyethyl Methacrylate (HEMA)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-Hydroxyethyl Methacrylate (HEMA)	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	prematuring & during gestation
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Copolymer Of Acrylic And Itaconic Acids	Ingestion	nervous system	Not classified	Rat	NOAEL 5,000 mg/kg	
Ethylene Dimethacrylate (EGDMA)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Silane Treated Ceramic	Inhalation	pulmonary fibrosis	Not classified	similar compounds	NOAEL Not available	
Copolymer Of Acrylic And Itaconic Acids	Ingestion	endocrine system hematopoietic system liver	Not classified	Rat	NOAEL 200 mg/kg/day	28 days
Copolymer Of Acrylic And Itaconic Acids	Ingestion	heart bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	liver	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 250 mg/kg/day	28 days

			classification			
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	blood	Not classified	Rat	LOAEL 420 mg/kg/day	40 days
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	endocrine system	Not classified	Rat	NOAEL 25 mg/kg/day	2 generation
2,6-Di-Tert-Butyl-P-Cresol (BHT)	Ingestion	heart	Not classified	Mouse	NOAEL 3,480 mg/kg/day	10 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 waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

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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