#### 3535/3535TK/3535SK 3MTM ESPETM RELYXTM LUTING PLUS AUTOMIX CEMENT



## **Safety Data Sheet**

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

## **IDENTIFICATION:**

#### 1.1. Product identifier

3535/3535TK/3535SK 3MTM ESPETM RELYXTM LUTING PLUS AUTOMIX CEMENT

#### **Product Identification Numbers**

70-2010-8554-8 70-2010-8555-5

#### 1.2. Recommended use and restrictions on use

#### Recommended use

Dental product, Dental luting cement

#### Restrictions on use

For use by dental professionals only.

### 1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland

**Telephone:** (09) 477 4040

E Mail: innovation@nz.mmm.com

Website: 3m.co.nz

## 1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the SDSs for components of this product are:

29-6280-1, 29-6234-8

## TRANSPORT INFORMATION

NOT HAZARDOUS FOR TRANSPORT

#### **Revision information:**

No revision information is available.

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#### 3535/3535TK/3535SK 3MTM ESPETM RELYXTM LUTING PLUS AUTOMIX CEMENT

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**Document group:** 29-6234-8 **Version number:** 1.00 **Issue Date:** 16/09/2014 **Supersedes date:** Initial issue.

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

## **SECTION 1: Identification**

#### 1.1. Product identifier

3MTM ESPETM RELYXTM LUTING PLUS CEMENT PASTE A

#### 1.2. Recommended use and restrictions on use

#### Recommended use

Dental Product, Luting cement

#### Restrictions on use

For use by dental professionals only.

## 1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland

**Telephone:** (09) 477 4040

E Mail: innovation@nz.mmm.com

Website: 3m.co.nz

## 1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

## **SECTION 2: Hazard identification**

#### 2.1. Classification of the substance or mixture

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.

Not classified as a Dangerous Good according to; New Zealand, Land Transport Rule: Dangerous Goods 2005 (Rule 45001/1) as amended, NZS 5433:2012 Transport of Dangerous Goods on Land, UN Model Regulations on the Transport of Dangerous Goods, International Maritime Dangerous Goods Code and IATA Dangerous Goods Regulations.

#### **HSNO** classification

6.5B Skin sensitiser

# 2.2. Label elements SIGNAL WORD

WARNING!

\_\_\_\_\_

## **Symbols:**

Exclamation mark |

## **Pictograms**



#### **HAZARD STATEMENTS:**

H317 May cause an allergic skin reaction.

#### PRECAUTIONARY STATEMENTS

**Prevention:** 

P104 Read Safety Data Sheet before use.

P280E Wear protective gloves.

**Response:** 

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

P501 Dispose of contents/container in accordance with applicable

 $local/regional/national/international\ regulations.$ 

## **SECTION 3: Composition/information on ingredients**

Ingredient	CAS Nbr	% by Weight
Silane treated filler	None	70 - 80
Water	7732-18-5	10 - 20
2-hydroxyethyl methacrylate	868-77-9	5 - 10
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis	68909-20-6	1 - 5
products with silica		
4-(Dimethylamino) phenethyl alcohol	50438-75-0	< 1

## **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

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See Section 11.1 Information on toxicological effects

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

Not applicable

## **SECTION 5: Fire-fighting measures**

### 5.1. Suitable extinguishing media

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

#### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

#### **Hazardous Decomposition or By-Products**

Substance

Carbon monoxide. Carbon dioxide.

#### **Condition**

During combustion. During combustion.

#### 5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

## **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. 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**

Refer to Section 15: HSNO Controls for more information.

#### 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.

#### 7.3. Approved handler test certificate

Not required

## **SECTION 8: Exposure controls/personal protection**

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## 8.1 Control parameters

#### Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

#### 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.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

#### 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

Physical state Solid.
Specific Physical Form: Paste

**Appearance/Odour** Off-white to slight yellow, characteristic odour **Odour threshold** *No data available.* 

No data available. рH No data available. Melting point/Freezing point Boiling point/Initial boiling point/Boiling range No data available. Flash point No flash point **Evaporation rate** No data available. Not classified Flammability (solid, gas) Flammable Limits(LEL) No data available No data available. Flammable Limits(UEL) Vapour pressure No data available. Vapour density No data available.

**Density** 1.5 g/cm<sup>3</sup>

Relative density 1.5 [Ref Std:WATER=1]

Water solubility
Solubility- non-water
Partition coefficient: n-octanol/water
Autoignition temperature
Decomposition temperature
Viscosity
No data available.

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## **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 polymerisation 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 labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

#### 11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

#### Inhalation

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

#### Skin contact

Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

#### **Eve contact**

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

#### Ingestion

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

#### 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.

## **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
2-hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester,	Dermal	Rabbit	LD50 > 5,000 mg/kg
hydrolysis products with silica			
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester,	Inhalation-	Rat	LC50 > 0.691 mg/l
hydrolysis products with silica	Dust/Mist		
	(4 hours)		
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester,	Ingestion	Rat	LD50 > 5,110 mg/kg
hydrolysis products with silica			

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
2-hydroxyethyl methacrylate	Rabbit	Minimal irritation
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products	Rabbit	No significant irritation
with silica		

## Serious Eye Damage/Irritation

Name	Species	Value
2-hydroxyethyl methacrylate	Rabbit	Moderate irritant
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products	Rabbit	No significant irritation
with silica		

### **Skin Sensitisation**

Name	Species	Value
2-hydroxyethyl methacrylate	Human	Sensitising
	and	
	animal	
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products	Human	Not sensitizing
with silica	and	
	animal	

## **Respiratory Sensitisation**

Name	Species	Value
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## **Germ Cell Mutagenicity**

Name	Route	Value
2-hydroxyethyl methacrylate	In vivo	Not mutagenic
2-hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	In Vitro	Not mutagenic

### Carcinogenicity

Name	Route	Species	Value
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester,	Not	Mouse	Some positive data exist, but the data are not
hydrolysis products with silica	specified.		sufficient for classification

## **Reproductive Toxicity**

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-hydroxyethyl methacrylate	Ingestion	Not toxic to female reproduction	Rat	NOAEL	premating &

				1,000 mg/kg/day	during gestation
2-hydroxyethyl methacrylate	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-hydroxyethyl methacrylate	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Propenoic acid, 2-methyl-, 3- (trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
2-Propenoic acid, 2-methyl-, 3- (trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
2-Propenoic acid, 2-methyl-, 3- (trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

### Target Organ(s)

Specific Target Organ Toxicity - single exposure

specific furget organ romeity single exposure								
Name	Route	Target Organ(s)	Value	Species	Test result	Exposure		
						Duration		

Specific Target Organ Toxicity - repeated exposure

peeme imger organ romery repeated enposare								
Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration		
2-Propenoic acid, 2- methyl-, 3- (trimetoxysilyl)propyl ester, hydrolysis products with silica	Inhalation	respiratory system   silicosis	All data are negative	Human	NOAEL Not available	occupational exposure		

**Aspiration Hazard** 

Name	Value

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**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

## 12.1. Toxicity

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
2-hydroxyethyl	868-77-9	Fathead	Experimental	96 hours	LC50	227 mg/l
methacrylate		minnow				
2-hydroxyethyl	868-77-9	Water flea	Experimental	48 hours	EC50	380 mg/l
methacrylate						
2-Propenoic	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l
acid, 2-methyl-						
, 3-						
(trimetoxysilyl						

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)propyl ester, hydrolysis products with silica						
2-hydroxyethyl	868-77-9	Green Algae	Experimental	72 hours	EC50	345 mg/l
methacrylate						
2-hydroxyethyl	868-77-9	Green Algae	Experimental	72 hours	NOEC	160 mg/l
methacrylate						
2-hydroxyethyl	868-77-9	Water flea	Experimental	21 days	NOEC	24.1 mg/l
methacrylate				-		-
4-	50438-75-0		Data not			
(Dimethylamin			available or			
o) phenethyl			insufficient for			
alcohol			classification			

## 12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
4- (Dimethylamin	50438-75-0	Modeled Photolysis		Photolytic half- life (in air)	1.85 hours (t 1/2)	Other methods
o) phenethyl alcohol					,	
4- (Dimethylamin o) phenethyl alcohol	50438-75-0	Modeled Biodegradation	28 days	BOD	10 % weight	OECD 301C - MITI test (I)
2-hydroxyethyl methacrylate	868-77-9	Experimental Hydrolysis		Hydrolytic half-life	10.9 days (t 1/2)	Other methods
2-hydroxyethyl methacrylate	868-77-9	Experimental Biodegradation	14 days	BOD	95 % weight	OECD 301C - MITI test (I)
2-Propenoic acid, 2-methyl- , 3- (trimetoxysilyl )propyl ester, hydrolysis products with silica	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Water	7732-18-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

## 12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
4-	50438-75-0	Modeled		Log Kow	1.7	Other methods
(Dimethylamin		Bioconcentrati				
o) phenethyl		on				
alcohol						
2-hydroxyethyl	868-77-9	Experimental		Log Kow	0.47	Other methods
methacrylate		Bioconcentrati				
		on				
2-Propenoic	68909-20-6	Data not	N/A	N/A	N/A	N/A
acid, 2-methyl-		available or				

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, 3-		insufficient for				
(trimetoxysilyl		classification				
)propyl ester,						
hydrolysis						
products with						
silica						
Water	7732-18-5	Data not	N/A	N/A	N/A	N/A
		available or				
		insufficient for				
		classification				

## 12.4. Mobility in soil

Please contact manufacturer for more details

#### 12.5 Other adverse effects

No information available.

## **SECTION 13: Disposal considerations**

### 13.1. Disposal methods

See Section 11.1 Information on toxicological effects

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.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

## **SECTION 14: Transport Information**

NOT HAZARDOUS FOR TRANSPORT

## **SECTION 15: Regulatory information**

HSNO Approval number HSR002558

Group standard name Dental Products (Subsidiary Hazard) Group Standard 2006

HSNO Hazard classification Refer to Section 2: Hazard identification

#### NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

## **HSNO Controls**

Approved handler test certificate

Location and transit Depot certification test
Hazardous atmosphere zone
Fire extinguishers

Not required
Not required
Not required

Emergency response plan 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a

HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg

(for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Secondary containment 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a

HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg

(for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Tracking Not required

Warning signage 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a

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HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

## **SECTION 16: Other information**

#### **Revision information:**

No revision information is available.

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**Document group:** 29-6280-1 **Version number:** 1.00 **Issue Date:** 16/09/2014 **Supersedes date:** Initial issue.

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

## **SECTION 1: Identification**

#### 1.1. Product identifier

 $3M^{TM}$  ESPETM RELYXTM LUTING PLUS CEMENT PASTE B

#### 1.2. Recommended use and restrictions on use

#### Recommended use

Dental Product, Luting cement

#### Restrictions on use

For use by dental professionals only.

## 1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland

**Telephone:** (09) 477 4040

E Mail: innovation@nz.mmm.com

Website: 3m.co.nz

## 1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

## **SECTION 2: Hazard identification**

#### 2.1. Classification of the substance or mixture

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.

Not classified as a Dangerous Good according to; New Zealand, Land Transport Rule: Dangerous Goods 2005 (Rule 45001/1) as amended, NZS 5433:2012 Transport of Dangerous Goods on Land, UN Model Regulations on the Transport of Dangerous Goods, International Maritime Dangerous Goods Code and IATA Dangerous Goods Regulations.

## **HSNO** classification

6.1E Acute toxicity

6.4A Irritating to the eye

6.5B Skin sensitiser

#### 2.2. Label elements

SIGNAL WORD

### 3M<sup>TM</sup> ESPE<sup>TM</sup> RELYX<sup>TM</sup> LUTING PLUS CEMENT PASTE B

### WARNING!

### **Symbols:**

Exclamation mark |

#### **Pictograms**



#### **HAZARD STATEMENTS:**

H303 May be harmful if swallowed.

H320 Causes eye irritation.

H317 May cause an allergic skin reaction.

### PRECAUTIONARY STATEMENTS

**Prevention:** 

P104 Read Safety Data Sheet before use.

P280E Wear protective gloves.

**Response:** 

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P331 Do NOT induce vomiting.

P312 Call a POISON CENTRE or doctor/physician if you feel unwell.

**Disposal:** 

P501 Dispose of contents/container in accordance with applicable

local/regional/national/international regulations.

## **SECTION 3: Composition/information on ingredients**

Ingredient	CAS Nbr	% by Weight
Silane treated ceramic	444758-98-9	30 - 40
Copolymer of acrylic and itaconic acids	25948-33-8	20 - 30
2-hydroxyethyl methacrylate	868-77-9	10 - 20
Water	7732-18-5	5 - 15
GLYCEROL 1,3 DIMETHACRYLATE	1830-78-0	1 - 5
Potassium persulphate	7727-21-1	1 - 5
Potassium dihydrogenorthophosphate	7778-77-0	1 - 5
GLYCERYL METHACRYLATE	5919-74-4	< 1
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	128-37-0	< 0.5

## **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

Denoi 2 of

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.

A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

#### If swallowed

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

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

See Section 11.1 Information on toxicological effects

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

Not applicable

## **SECTION 5: Fire-fighting measures**

#### 5.1. Suitable extinguishing media

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

#### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

## **Hazardous Decomposition or By-Products**

#### **Substance**

Carbon monoxide.

Carbon dioxide.

### **Condition**

During combustion.

During combustion.

## 5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

## **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. 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**

Refer to Section 15: HSNO Controls for more information.

#### 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

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and then re-glove. Avoid breathing dust/fume/gas/mist/vapours/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. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

### 7.3. Approved handler test certificate

Not required

## **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	CAS Nbr	Agency	Limit type	Additional comments
2,6-DI-TERT-BUTYL-P-	128-37-0	New Zealand	TWA(8 hours):10 mg/m3	
CRESOL (BHT)		WES		
2,6-DI-TERT-BUTYL-P-	128-37-0	ACGIH	TWA(inhalable fraction and	A4: Not class. as human
CRESOL (BHT)			vapor):2 mg/m3	carcinogin
PERSULFATE COMPOUNDS	7727-21-1	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 New Zealand WES: New Zealand Workplace Exposure Standards.

TWA: Time-Weighted-Average STEL: Short Term Exposure Limit ppm: parts per million mg/m³: milligrams per cubic metre

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.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

#### Skin/hand protection

See Section 7.1 for additional information on skin protection.

#### Respiratory protection

Respiratory protection is not required.

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## **SECTION 9: Physical and chemical properties**

### 9.1. Information on basic physical and chemical properties

Physical state **Specific Physical Form:** Paste

Appearance/Odour Clear to slight yellow colour, characteristic odour.

**Odour threshold** No data available. No data available. Melting point/Freezing point Not applicable. Boiling point/Initial boiling point/Boiling range Not applicable. No flash point Flash point **Evaporation rate** No data available. Flammability (solid, gas) Not classified No data available. Flammable Limits(LEL) No data available. Flammable Limits(UEL) No data available. Vapour pressure Vapour density No data available.

**Density** 1.5 g/cm<sup>3</sup>

Relative density 1.5 [Ref Std:WATER=1]

Water solubility Negligible No data available. Solubility- non-water Partition coefficient: n-octanol/water No data available. **Autoignition temperature** No data available. **Decomposition temperature** No data available. Viscosity No data available. Volatile organic compounds (VOC) Not applicable.

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

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

### 10.2 Chemical stability

Stable.

#### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

## 10.4 Conditions to avoid

Heat

## 10.5 Incompatible materials

None known.

#### 10.6 Hazardous decomposition products

Condition **Substance** 

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 labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

#### 11.1 Information on Toxicological effects

### Signs and Symptoms of Exposure

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

#### Inhalation

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

#### Skin contact

Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

#### Eve contact

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

#### Ingestion

May be harmful if swallowed.

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

## **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 ATE2,000 - 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
2-hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
GLYCEROL 1,3 DIMETHACRYLATE	Ingestion	similar	LD50 300-2000 mg/kg
		compoun	
		ds	
Potassium dihydrogenorthophosphate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Potassium dihydrogenorthophosphate	Ingestion	Rat	LD50 > 4,640 mg/kg
Potassium persulphate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Potassium persulphate	Inhalation-	Rat	LC50 > 10.7 mg/l
	Dust/Mist		
	(4 hours)		
Potassium persulphate	Ingestion	Rat	LD50 1,130 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

Skin Corrosion/irritation		
Name	Species	Value
Silane treated ceramic	similar	No significant irritation
	compoun	
	ds	
2-hydroxyethyl methacrylate	Rabbit	Minimal irritation
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Human	Minimal irritation
	and	

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animal	

**Serious Eye Damage/Irritation** 

Name	Species	Value
Silane treated ceramic	similar	Mild irritant
	compoun	
	ds	
2-hydroxyethyl methacrylate	Rabbit	Moderate irritant
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Rabbit	Mild irritant

## **Skin Sensitisation**

Name	Species	Value
Silane treated ceramic	similar	Some positive data exist, but the data are not
	compoun	sufficient for classification
	ds	
2-hydroxyethyl methacrylate	Human	Sensitising
	and	
	animal	
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Human	Some positive data exist, but the data are not
		sufficient for classification

**Respiratory Sensitisation** 

Name	Species	Value

**Germ Cell Mutagenicity** 

Name	Route	Value
2-hydroxyethyl methacrylate	In vivo	Not mutagenic
2-hydroxyethyl methacrylate	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	Some positive data exist, but the data are not
		compoun	sufficient for classification
		ds	
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Ingestion	Multiple	Some positive data exist, but the data are not
		animal	sufficient for classification
		species	

## **Reproductive Toxicity**

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-hydroxyethyl methacrylate	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-hydroxyethyl methacrylate	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-hydroxyethyl methacrylate	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Ingestion	Not toxic to female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Ingestion	Not toxic to male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P-CRESOL (BHT)	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Silane treated ceramic	Inhalation	pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	similar compoun ds	NOAEL Not available	
2,6-DI-TERT-BUTYL-P- CRESOL (BHT)	Ingestion	liver	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 25 mg/kg/day	28 days
2,6-DI-TERT-BUTYL-P- CRESOL (BHT)	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P- CRESOL (BHT)	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 420 mg/kg/day	40 days
2,6-DI-TERT-BUTYL-P- CRESOL (BHT)	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25 mg/kg/day	2 generation
2,6-DI-TERT-BUTYL-P- CRESOL (BHT)	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,480 mg/kg/day	10 weeks

**Aspiration Hazard** 

l Na	nme	Value

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**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

## 12.1. Toxicity

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
GLYCEROL	1830-78-0	Guppy	Experimental	96 hours	LC50	43.2 mg/l
1,3						
DIMETHACR						
YLATE						
2-hydroxyethyl	868-77-9	Fathead	Experimental	96 hours	LC50	227 mg/l
methacrylate		minnow				
2-hydroxyethyl	868-77-9	Water flea	Experimental	48 hours	EC50	380 mg/l
methacrylate						
Potassium	7778-77-0	Western	Analogous	96 hours	LC50	186 mg/l
dihydrogenorth		Mosquitofish	Compound			
ophosphate						
Potassium	7778-77-0	Water flea	Analogous	48 hours	EC50	177 mg/l
dihydrogenorth			Compound			

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## 3M<sup>TM</sup> ESPE<sup>TM</sup> RELYX<sup>TM</sup> LUTING PLUS CEMENT PASTE B

ophosphate						
Potassium persulphate	7727-21-1	Rainbow trout	Experimental	96 hours	LC50	163 mg/l
Potassium persulphate	7727-21-1	Water flea	Experimental	48 hours	EC50	64.4 mg/l
Potassium persulphate	7727-21-1	Green Algae	Experimental	72 hours	EC50	116 mg/l
2-hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	EC50	345 mg/l
2,6-DI-TERT- BUTYL-P- CRESOL (BHT)	128-37-0	Green algae	Experimental	72 hours	NOEC	0.4 mg/l
2-hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	NOEC	160 mg/l
2-hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	21 days	NOEC	24.1 mg/l
Potassium persulphate	7727-21-1	Water flea	Experimental	21 days	NOEC	10 mg/l
Potassium persulphate	7727-21-1	Green Algae	Experimental	72 hours	NOEC	3.2 mg/l
Copolymer of acrylic and itaconic acids	25948-33-8		Data not available or insufficient for classification			
Silane treated ceramic	444758-98-9		Data not available or insufficient for classification			
GLYCERYL METHACRYL ATE	5919-74-4		Data not available or insufficient for classification			

## 12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Copolymer of	25948-33-8	Data not	N/A	N/A	N/A	N/A
acrylic and		available or				
itaconic acids		insufficient for				
		classification				
Potassium	7727-21-1	Data not	N/A	N/A	N/A	N/A
persulphate		available or				
		insufficient for				
		classification				
Potassium	7778-77-0	Data not	N/A	N/A	N/A	N/A
dihydrogenorth		available or				
ophosphate		insufficient for				
		classification				
GLYCERYL	5919-74-4	Estimated	28 days	BOD	81 % weight	OECD 301C - MITI
METHACRYL		Biodegradation				test (I)
ATE						
2-hydroxyethyl	868-77-9	Experimental		Hydrolytic	10.9 days (t	Other methods
methacrylate		Hydrolysis		half-life	1/2)	
2-hydroxyethyl	868-77-9	Experimental	14 days	BOD	95 % weight	OECD 301C - MITI

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## 3M™ ESPE™ RELYX™ LUTING PLUS CEMENT PASTE B

methacrylate		Biodegradation				test (I)
Silane treated ceramic	444758-98-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
GLYCEROL 1,3 DIMETHACR YLATE	1830-78-0	Experimental Biodegradation	28 days	BOD	84 % weight	OECD 301F - Manometric respirometry
2,6-DI-TERT- BUTYL-P- CRESOL (BHT)	128-37-0	Experimental Biodegradation	28 days	BOD	4.5 % weight	OECD 301C - MITI test (I)
Water	7732-18-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

## 12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Copolymer of acrylic and itaconic acids	25948-33-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Potassium persulphate	7727-21-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Potassium dihydrogenorth ophosphate	7778-77-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
GLYCERYL METHACRYL ATE	5919-74-4	Estimated BCF - Other		Bioaccumulati on factor	2.0	Estimated: Bioconcentration factor
2-hydroxyethyl methacrylate	868-77-9	Experimental Bioconcentrati on		Log Kow	0.47	Other methods
Silane treated ceramic	444758-98-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
GLYCEROL 1,3 DIMETHACR YLATE	1830-78-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,6-DI-TERT- BUTYL-P- CRESOL (BHT)	128-37-0	Experimental BCF-Carp	56 days	Bioaccumulati on factor	1276	OECD 305E - Bioaccumulation flow- through fish test
Water	7732-18-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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#### 12.4. Mobility in soil

Please contact manufacturer for more details

#### 12.5 Other adverse effects

No information available.

## **SECTION 13: Disposal considerations**

#### 13.1. Disposal methods

See Section 11.1 Information on toxicological effects

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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

## **SECTION 14: Transport Information**

NOT HAZARDOUS FOR TRANSPORT

## **SECTION 15: Regulatory information**

HSNO Approval number HSR002558

Group standard name Dental Products (Subsidiary Hazard) Group Standard 2006

HSNO Hazard classification Refer to Section 2: Hazard identification

## NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

#### **HSNO Controls**

Approved handler test certificate Not required Location and transit Depot certification test Not required Hazardous atmosphere zone Not required Fire extinguishers Not required

100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a Emergency response plan

HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg

(for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Secondary containment 100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a

HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg

(for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)

Tracking Not required

100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a Warning signage

HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO

6.1D or 9.1D substance)

## **SECTION 16: Other information**

## **Revision information:**

No revision information is available.

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT

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