Safety Data Sheet

Document group:	18-1161-1	**Version number:**	3.00
Issue Date:	10/04/2016	**Supersedes date:**	12/09/2012

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

IDENTIFICATION:

1.1. Product identifier
3M ESPE Relyx Unicem Aplicap/Maxicap

Product Identification Numbers

70-2011-1559-2	70-2011-1562-6	70-2011-1563-4	70-2011-1564-2	70-2011-1565-9
70-2011-1566-7	70-2011-1567-5	70-2011-1568-3	70-2011-1980-0	70-2011-1981-8
70-2011-1982-6	70-2011-1983-4			

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Dental univeral luting material.

For use only by dental professionals.

Restrictions on use
For use by dental professionals only.

1.3. Supplier's details

Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
Company Emergency Hotline:EMERGENCY: 1800 097 146 (Australia only)

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:

17-9608-5, 18-0262-8

TRANSPORT INFORMATION

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge

at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au

Safety Data Sheet

Document group:	18-0262-8	**Version number:**	3.00
Issue Date:	07/04/2016	**Supersedes date:**	12/09/2012

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
3M™ ESPE™ RelyX™ Unicem Aplicap/Maxicap Powder

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Universal luting material.

For use only by dental professionals.

Restrictions on use
For use by dental professionals only.

1.3. Supplier's details
Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2.

2.2. Label elements
The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word
WARNING!

Symbols
Exclamation mark |

Pictograms

Hazard statements

H319	Causes serious eye irritation.

Precautionary statements

Prevention:

P280A	Wear eye/face protection.
P264	Wash thoroughly after handling.

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.
P337 + P313	If eye irritation persists: Get medical advice/attention.

2.3. Other assigned/identified product hazards
None known.

2.4. Other hazards which do not result in classification
May be harmful if swallowed.
Causes mild skin irritation.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	80 - 95
Sodium Persulphate	7775-27-1	0.8205813 0.99999
Titanium dioxide	13463-67-7	0 0.34381
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	122334-95-6	1 - 10
Calcium dihydroxide	1305-62-0	< 5
Subtituted pyrimidine	72846-00-5	1 - 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
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
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
Material will not burn.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
None known.	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.

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
Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/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. Use personal protective equipment (eg. gloves, respirators…) as required. A no-touch technique is recommended. If skin contact occurs, wash skin

with soap and water. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

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
Calcium dihydroxide	1305-62-0	ACGIH	TWA:5 mg/m3	
Calcium dihydroxide	1305-62-0	Australia OELs	TWA(8 hours):5 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m³	A4: Not class. as human carcin
Titanium dioxide	13463-67-7	Australia OELs	TWA(Inspirable dust)(8 hours):10 mg/m3	
Titanium dioxide	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m3	
PERSULFATE COMPOUNDS	7775-27-1	ACGIH	TWA(as persulfate):0.1 mg/m3	
Sodium Persulphate	7775-27-1	Australia OELs	Peak limit:0.01 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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:	Powder
Appearance/Odour	Odorless powders of different colors.
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	No flash point
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*Not applicable.*
Vapour density	*Not applicable.*
Density	> 1 g/ml
Relative density	*No data available.*
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	*Not applicable.*
Molecular weight	*No data available.*
Volatile organic compounds (VOC)	*Not applicable.*

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. Conditions to avoid
None known.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

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
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
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Additional Health Effects:

Carcinogenicity:
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	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	similar compounds	LD50 estimated to be 2,000 - 5,000 mg/kg
Calcium dihydroxide	Dermal	Rabbit	LD50 > 2,500 mg/kg
Calcium dihydroxide	Ingestion	Rat	LD50 7,340 mg/kg
Subtituted pyrimidine	Dermal	Professional	LD50 estimated to be 2,000 - 5,000 mg/kg

		judgement	
Subtituted pyrimidine	Ingestion	Rat	LD50 > 2,000 mg/kg
Sodium Persulphate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Sodium Persulphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 47.93 mg/l
Sodium Persulphate	Ingestion	Rat	LD50 895 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
Calcium dihydroxide	Human	Corrosive
Titanium dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
Calcium dihydroxide	Rabbit	Corrosive
Titanium dioxide	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Subtituted pyrimidine	Mouse	Not sensitizing
Titanium dioxide	Human and animal	Not sensitizing

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Subtituted pyrimidine	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target	Value	Species	Test result	Exposure

		Organ(s)				Duration
Calcium dihydroxide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 2.5 mg/m3	20 minutes
Subtituted pyrimidine	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,000 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	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.

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Sheepshead Minnow	Experimental	96 hours	LC50	>240 mg/l
Titanium dioxide	13463-67-7	Fish	Experimental	30 days	NOEC	>100 mg/l

Titanium dioxide	13463-67-7	Water flea	Experimental	30 days	NOEC	3 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3		Data not available or insufficient for classification			
Calcium dihydroxide	1305-62-0	Water flea	Experimental	48 hours	EC50	1,062 mg/l
Calcium dihydroxide	1305-62-0	Western Mosquitofish	Experimental	96 hours	LC50	13,400 mg/l
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	122334-95-6		Data not available or insufficient for classification			
Subtituted pyrimidine	72846-00-5		Data not available or insufficient for classification			
Sodium Persulphate	7775-27-1	Water flea	Experimental	48 hours	EC50	64.6 mg/l
Sodium Persulphate	7775-27-1	Rainbow trout	Experimental	96 hours	LC50	163 mg/l
Sodium Persulphate	7775-27-1	Green Algae	Experimental	72 hours	EC50	116 mg/l
Sodium Persulphate	7775-27-1	Green Algae	Experimental	72 hours	NOEC	3.2 mg/l
Sodium Persulphate	7775-27-1	Water flea	Experimental	21 days	NOEC	10 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Titanium dioxide	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	122334-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium Persulphate	7775-27-1	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
Calcium dihydroxide	1305-62-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Subtituted pyrimidine	72846-00-5	Modeled Biodegradation	28 days	BOD	30.6 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Sodium Persulphate	7775-27-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	122334-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Calcium dihydroxide	1305-62-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Subtituted pyrimidine	72846-00-5	Modeled Bioconcentration		Bioaccumulation factor	4.84	Other methods

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

Incinerate uncured product in a permitted waste incineration facility. 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. Proper destruction may require the use of additional fuel during incineration processes. 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.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory Status:
This product is regulated by the Therapeutics Goods Administration and is exempt from compliance with the Industrial Chemicals (Notification and Assessment) Act 1989 as amended.

Poison Schedule: This product has not been assessed for poisons scheduling as the product is intended for industrial and professional use only.

SECTION 16: Other information

Revision information:
Conversion to GHS format SDS.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au

Safety Data Sheet

Document group:	17-9608-5	**Version number:**	3.00
Issue Date:	08/04/2016	**Supersedes date:**	12/09/2012

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

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

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, For use by dental professionals.

For use only by dental professionals.

1.3. Supplier's details
Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Flammable Liquid: Category 4.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1.

2.2. Label elements
The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word

DANGER!

Symbols
Corrosion | Exclamation mark |

Pictograms

Hazard statements

H227	Combustible liquid.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.

Precautionary statements

Prevention:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280B	Wear protective gloves and eye/face protection.
P280A	Wear eye/face protection.
P280E	Wear protective gloves.
P272	Contaminated work clothing should not be allowed out of the workplace.

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.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P321	Specific treatment (see Notes to Physician on this label).
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other assigned/identified product hazards
None known.

2.4. Other hazards which do not result in classification
Causes mild skin irritation. Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	40 - 50
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	25 - 35
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	20 - 30
Copper Acetate	6046-93-1	< 0.2

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. WARNING ! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Collect as much of the spilled material as possible using non-sparking tools. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

This product is classified as a C1 COMBUSTIBLE LIQUID. For more information please refer to AS 1940

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/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Store away from heat. Store away from acids. Store away from oxidising 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	CAS Nbr	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
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Clear yellow liquid with acrylate odour.
Odour threshold	*No data available.*
pH	2.3
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	> 93.3 ºC
Flash point	64 ºC [*Test Method:*Tagliabue closed cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapour density	*No data available.*
Density	1.14 g/ml
Relative density	1.14 [*Ref Std:*WATER=1]
Water solubility	< 63 g/l
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Molecular weight	*No data available.*
Percent volatile	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3. Conditions to avoid
Heat.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

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
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 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 ATE >5,000 mg/kg
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Dermal		LD50 estimated to be > 5,000 mg/kg
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Ingestion	Rat	LD50 > 2,000 mg/kg
2,2'-Ethylenedioxydiethyl	Dermal	Professional	LD50 estimated to be > 5,000 mg/kg

dimethacrylate		judgement	
2,2'-Ethylenedioxydiethyl dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Ingestion	Rat	LD50 > 17,600 mg/kg
Copper Acetate			Data not available or insufficient for classification

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
2,2'-Ethylenedioxydiethyl dimethacrylate	Guinea pig	Mild irritant
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	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
2,2'-Ethylenedioxydiethyl dimethacrylate	Professional judgement	Moderate irritant
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	Guinea pig	Not sensitizing
2,2'-Ethylenedioxydiethyl dimethacrylate	Human and animal	Sensitising
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Guinea pig	Not sensitizing

Respiratory Sensitisation

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
2,2'-Ethylenedioxydiethyl dimethacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2,2'-Ethylenedioxydiethyl dimethacrylate	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2,2'-Ethylenedioxydiethyl dimethacrylate	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
2,2'-Ethylenedioxydiethyl dimethacrylate	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
2,2'-Ethylenedioxydiethyl dimethacrylate	Ingestion	Not toxic to development	Mouse	NOAEL 1 mg/kg/day	1 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2,2'-Ethylenedioxydiethyl 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
2,2'-Ethylenedioxydiethyl 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.

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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

Acute aquatic hazard:
GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5		Data not available or insufficient for classification			
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Water flea	Experimental	48 hours	EC50	>100 mg/l
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Green algae	Experimental	72 hours	NOEC	56 mg/l
Copper Acetate	6046-93-1	Algae other	Experimental	72 hours	EC50	0.005 mg/l
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0		Data not available or insufficient for classification			
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	Calculated Photolysis		Photolytic half-life (in air)	5.67 hours (t 1/2)	Other methods
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	Analogous Compound Biodegradation	28 days	BOD	60 % weight	Other methods
Copper Acetate	6046-93-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	Estimated Biodegradation	28 days	BOD	60 % weight	Other methods
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Experimental Biodegradation	28 days	BOD	82 % weight	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	Laboratory Bioaccumulation		Log Kow	1.88	Other methods
Copper Acetate	6046-93-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-Ethylenedioxydiethyl dimethacrylate	109-16-0	Experimental Bioaccumulation		Log Kow	1.88	Other methods
mixture of mono-, di- and tri-glycerin-dimethacrylate-ester of phosphoric acid	1224866-76-5	Experimental Bioconcentration		Log Kow	-0.2	Other methods

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

Incinerate uncured product in a permitted waste incineration facility. 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. Proper destruction may require the use of additional fuel during incineration processes. 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.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory Status:
This product is regulated by the Therapeutics Goods Administration and is exempt from compliance with the Industrial Chemicals (Notification and Assessment) Act 1989 as amended.

Poison Schedule: This product has not been assessed for poisons scheduling as the product is intended for industrial and professional use only.

SECTION 16: Other information

Revision information:
Conversion to GHS format SDS.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au