Safety Data Sheet

Document group:	29-9060-4	**Version number:**	4.00
Issue Date:	26/06/2022	**Supersedes date:**	04/08/2019

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™ RelyX™ Ultimate Refill (56887, 56888, 56889, 56890)

Product Identification Numbers
70-2011-3862-8 70-2011-3863-6 70-2011-3864-4 70-2011-3865-1

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Adhesive resin cement.

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:

29-9002-6, 29-9001-8

One or more components of this KIT is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

TRANSPORT INFORMATION

The Dangerous Goods Classification for the complete Kit is provided below.

UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (2-Propenoic Acid, 2-Methyl-, 1,12-Dodecanediyl; Tert-Butyl Peroxy-3,5,5-Trimethylhexanoate, 95% Acetic Acid, Copper (2+) Salt, Monohydrate)
Class/Division: 9
Packing Group: III
Marine Pollutant: Not applicable.

Hazchem Code: 2Z
IERG: 47

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
Special Instructions: Not restricted, environmentally hazardous substance exception.

International Air Transport Association (IATA)- Air Transport
Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
Special Instructions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

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:	29-9001-8	**Version number:**	5.00
Issue Date:	26/06/2022	**Supersedes date:**	04/08/2019

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™ RelyX™ Ultimate Base Paste

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Adhesive resin cement.

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, in accordance with applicable State and Territory legislation.

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

2.1. Classification of the substance or mixture
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

Warning

Symbols
Exclamation mark |

Pictograms

Hazard statements

H317	May cause an allergic skin reaction.

Precautionary statements

Prevention:

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

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
May be harmful if swallowed.
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
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	None	50 - 60
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	1224866-76-5	20 - 30
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	10 - 20
2-Propenoic acid, 2-methyl-, 3-	68909-20-6	5 - 10

(trimetoxysilyl)propyl ester, hydrolysis products with silica		
Oxide Glass Chemicals (non-fibrous)	65997-17-3	< 3
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	< 0.5
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	< 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
No critical symptoms or effects. 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	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	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.

Hazchem Code: 2Z

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. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

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	CAS Nbr	Agency	Limit type	Additional comments
COPPER COMPOUNDS	6046-93-1	ACGIH	TWA(as Cu, fume):0.2 mg/m3;TWA(as Cu dust or mist):1 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:	Paste
Colour	Tooth
Odour	Slight Acrylic
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	No flash point
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	2 g/cm3 - 2.2 g/cm3
Relative density	2 - 2.2 [*Ref Std:*WATER=1]
Water solubility	Negligible
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/Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*
Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3. 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
This product may have a characteristic odour; however, no adverse health effects are anticipated.

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

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

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and 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 >2,000 - =5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 1,1'-[1-	Dermal		LD50 estimated to be > 5,000 mg/kg

(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide			
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	Ingestion	Rat	LD50 > 2,000 mg/kg
2,2'-ethylenedioxydiethyl dimethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 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
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Dermal	Rat	LD50 > 2,000 mg/kg
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.8 mg/l
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Ingestion	Rat	LD50 12,905 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	Professional judgement	No significant irritation
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	Rabbit	Minimal irritation
2,2'-ethylenedioxydiethyl dimethacrylate	Guinea pig	Mild irritant
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product		No significant irritation
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and	Professional judgement	No significant irritation

phenyltrimethoxy silane (2996-92-1), bulk material		
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	Rabbit	Corrosive
2,2'-ethylenedioxydiethyl dimethacrylate	Professional judgement	Moderate irritant
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	Guinea pig	Not classified
2,2'-ethylenedioxydiethyl dimethacrylate	Human and animal	Sensitising
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Human and animal	Not classified
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Guinea pig	Sensitising

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
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	In Vitro	Not mutagenic
2,2'-ethylenedioxydiethyl dimethacrylate	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
2,2'-ethylenedioxydiethyl dimethacrylate	Dermal	Mouse	Not carcinogenic
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Not specified.	Mouse	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
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
2,2'-ethylenedioxydiethyl	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation

dimethacrylate					
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Not classified for 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 classified for 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 classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

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 | blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Inhalation	respiratory system | silicosis	Not classified	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:
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
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	None		Data not available or insufficient for classification			N/A
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	1224866-76-5	Green algae	Endpoint not reached	72 hours	EC50	>100 mg/l
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	1224866-76-5	Water flea	Experimental	48 hours	EC50	>100 mg/l
2-Propenoic acid, 2-methyl-, 1,1'-[1-	1224866-76-5	Green algae	Experimental	72 hours	NOEC	56 mg/l

(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide						
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Green algae	Experimental	72 hours	EC50	>100 mg/l
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Zebra Fish	Experimental	96 hours	LC50	16.4 mg/l
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Green algae	Experimental	72 hours	NOEC	18.6 mg/l
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Water flea	Experimental	21 days	NOEC	32 mg/l
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	68909-20-6	Algae or other aquatic plants	Estimated	72 hours	EC50	>100 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Green algae	Experimental	72 hours	NOEC	>1,000 mg/l
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Activated sludge	Experimental	3 hours	NOEC	26.3 mg/l
tert-Butyl	13122-18-4	Green algae	Experimental		EC50	0.51 mg/l

peroxy-3,5,5-trimethylhexanoate						
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Rainbow trout	Experimental		LC50	7 mg/l
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Water flea	Experimental		EC50	>100 mg/l
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Green algae	Experimental		NOEC	0.125 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Green algae	Estimated	72 hours	EC50	0.33 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Water flea	Estimated	48 hours	EC50	0.04 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Zebra Fish	Estimated	96 hours	LC50	0.037 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Fathead minnow	Estimated	32 days	EC10	0.019 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Green algae	Estimated		NOEC	0.069 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Water flea	Estimated	7 days	NOEC	0.01 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Activated sludge	Estimated		EC50	22 mg/l
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Barley	Estimated	4 days	NOEC	50 mg/kg (Dry Weight)
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Bobwhite quail	Estimated	14 days	LD50	4,402 mg per kg of bodyweight
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Redworm	Estimated	56 days	NOEC	31 mg/kg (Dry Weight)
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Sediment Worm	Estimated	28 days	NOEC	57.5 mg/kg (Dry Weight)
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Soil microbes	Estimated	4 days	NOEC	38 mg/kg (Dry Weight)
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Springtail	Estimated	28 days	NOEC	87.7 mg/kg (Dry Weight)

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	None	Data not available-insufficient	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	1224866-76-5	Experimental Biodegradation	28 days	BOD	82 %BOD/ThBOD	OECD 301F - Manometric respirometry
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Experimental Biodegradation	28 days	CO2 evolution	85 % weight	OECD 301B - Modified sturm or CO2
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	68909-20-6	Data not available-insufficient	N/A	N/A	N/A	N/A
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available-insufficient	N/A	N/A	N/A	N/A
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Estimated Biodegradation	28	BOD	14 %BOD/ThBOD	OECD 301C - MITI test (I)
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Analogous Compound Biodegradation	14 days	BOD	74 %BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0) and phenyltrimethoxy silane (2996-92-1), bulk material	None	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 1,1'-[1-(hydroxymethyl)-1,2-ethanediyl] ester, reaction products with 2-hydroxy-1,3-propanediyl dimethacrylate and phosphorus oxide	1224866-76-5	Experimental Bioconcentration		Log Kow	-0.2	Non-standard method
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Experimental Bioconcentration		Log Kow	2.3	Non-standard method
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
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4	Estimated Bioconcentration		Bioaccumulation factor	363	Estimated: Bioconcentration factor
Acetic acid, copper(2+) salt, monohydrate	6046-93-1	Analogous Compound Bioconcentration		Log Kow	-0.17	

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 in a permitted waste incineration facility.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (Tert-Butyl Peroxy-3, 5, 5-Trimethylhexanoate, (Acetic Acid, Copper (2+) Salt, Monohydrate))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, environmentally hazardous substance exception.
Hazchem Code: 2Z
IERG: 47

International Air Transport Association (IATA) - Air Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (Tert-Butyl Peroxy-3, 5, 5-Trimethylhexanoate, (Acetic Acid, Copper (2+) Salt, Monohydrate))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (Tert-Butyl Peroxy-3, 5, 5-Trimethylhexanoate, (Acetic Acid, Copper (2+) Salt, Monohydrate))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Marine Pollutant: Not applicable.
Special Instructions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

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.

SECTION 16: Other information

Revision information:
Complete document review.

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:	29-9002-6	**Version number:**	4.00
Issue Date:	26/06/2022	**Supersedes date:**	04/08/2019

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™ RelyX™ Ultimate Catalyst Paste

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, Adhesive resin cement.

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, in accordance with applicable State and Territory legislation.

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.
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
Warning

Symbols
Exclamation mark |

Pictograms

Hazard statements

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

Precautionary statements

Prevention:

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P337 + P313	IF eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

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
May be harmful if swallowed.
Causes mild skin irritation.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	None	55 - 65
(1-Methylethylidene)bis(4, 1-phenyleneoxy-	27689-12-9	20 - 30

3, 1-propanediyl) bismethacrylate		
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	945012-02-2	1 - 10
1,12-dodecane dimethycrylate	72829-09-5	< 5
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	93962-70-0	< 0.5
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	68909-20-6	< 5
Sodium P-Toluenesulfinate	824-79-3	< 5
Titanium dioxide	13463-67-7	< 0.5
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	93962-71-1	< 2
Calcium dihydroxide	1305-62-0	< 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. 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
No critical symptoms or effects. 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	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	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.

Hazchem Code: 2Z

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. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

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	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	

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:	Paste
Colour	Tooth
Odour	Slight Acrylic
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	No flash point
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	2 g/cm3 - 2.2 g/cm3
Relative density	2 - 2.2 [*Ref Std:*WATER=1]
Water solubility	Nil
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/Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*
Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3. 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
This product may have a characteristic odour; however, no adverse health effects are anticipated.

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

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

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

Additional Health Effects:

Carcinogenicity:
Exposures needed to cause the following health effect(s) are not expected during normal, intended use:
Contains a chemical or chemicals which can cause cancer.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	Ingestion		LD50 estimated to be 2,000 - 5,000 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
1,12-dodecane dimethycrylate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
1,12-dodecane dimethycrylate	Ingestion	similar compounds	LD50 2000-5000 mg/kg
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	Ingestion	Rat	LD50 > 2,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Calcium dihydroxide	Dermal	Rabbit	LD50 > 2,500 mg/kg
Calcium dihydroxide	Ingestion	Rat	LD50 7,340 mg/kg
Sodium P-Toluenesulfinate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Sodium P-Toluenesulfinate	Ingestion	Rat	LD50 3,200 mg/kg
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	Ingestion	Rat	LD50 > 1,600 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
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-	Ingestion	Rat	LD50 > 400 mg/kg

Methoxypropyl)Amino]Ethyl Ester			

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	Professional judgement	No significant irritation
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Rabbit	No significant irritation
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Rabbit	No significant irritation
Calcium dihydroxide	Human	Corrosive
Titanium dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	Professional judgement	No significant irritation
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Rabbit	Mild irritant
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Rabbit	No significant irritation
Calcium dihydroxide	Rabbit	Corrosive
Titanium dioxide	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	Guinea pig	Not classified
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	Mouse	Not classified
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Human and animal	Not classified
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	Professional judgement	Sensitising
Titanium dioxide	Human and animal	Not classified
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	Professional judgement	Sensitising

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
(1-Methylethylidene)bis(4, 1-phenyleneoxy- 3, 1-propanediyl) bismethacrylate	In Vitro	Not mutagenic

2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	In Vitro	Not mutagenic
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica	Ingestion	Not classified for 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 classified for 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 classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	Ingestion	nervous system	Not classified	Rat	NOAEL 2,000 mg/kg	
Calcium dihydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 2.5 mg/m³	20 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2-Propenoic acid, 2-	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure

methyl-, 3-(trimetoxysilyl)propyl ester, hydrolysis products with silica						
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	Not classified	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:
GHS Acute 1: Very 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
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	None		Data not available or insufficient for classification			N/A
(1-Methylethylidene)bis(4, 1-	27689-12-9	Green algae	Experimental	72 hours	EC50	>100 mg/l

phenyleneoxy-3, 1-propanediyl) bismethacrylate						
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	Green algae	Experimental	72 hours	NOEC	>100 mg/l
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	945012-02-2		Data not available or insufficient for classification			N/A
1,12-dodecane dimethycrylate	72829-09-5	Green algae	Experimental	72 hours	EC50	0.017 mg/l
1,12-dodecane dimethycrylate	72829-09-5	Water flea	Experimental	48 hours	EC50	>100 mg/l
1,12-dodecane dimethycrylate	72829-09-5	Green algae	Experimental	72 hours	EC10	0.0064 mg/l
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	93962-70-0		Data not available or insufficient for classification			N/A
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	68909-20-6	Algae or other aquatic plants	Estimated	72 hours	EC50	>100 mg/l
Sodium P-Toluenesulfinate	824-79-3	Fathead minnow	Estimated	96 hours	LC50	>400 mg/l
Sodium P-Toluenesulfinate	824-79-3	Green algae	Estimated	96 hours	EC50	230 mg/l
Sodium P-Toluenesulfinat	824-79-3	Water flea	Estimated	48 hours	EC50	>400 mg/l

e						
Sodium P-Toluenesulfinate	824-79-3	Green algae	Estimated	96 hours	NOEC	31 mg/l
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	93962-71-1		Data not available or insufficient for classification			N/A
Calcium dihydroxide	1305-62-0	Fathead minnow	Estimated	96 hours	LC50	4,630 mg/l
Calcium dihydroxide	1305-62-0	Green algae	Estimated	72 hours	EC50	>4,000 mg/l
Calcium dihydroxide	1305-62-0	Water flea	Estimated	48 hours	EC50	2,400 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	None	Data not available-insufficient	N/A	N/A	N/A	N/A
(1-Methylethylidene)bis(4, 1-phenyleneoxy-3, 1-propanediyl) bismethacrylate	27689-12-9	Experimental Biodegradation	28 days	CO2 evolution	7-12 % weight	OECD 301B - Modified sturm or CO2
2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)	945012-02-2	Data not available-insufficient	N/A	N/A	N/A	N/A
1,12-dodecane	72829-09-5	Experimental	28 days	CO2 evolution	97.3 %CO2	OECD 301B - Modified

dimethycrylate		Biodegradation			evolution/THCO2 evolution	sturm or CO2
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	93962-70-0	Estimated Biodegradation	28 days	BOD	77 % weight	OECD 301F - Manometric respirometry
2-Propenoic acid, 2-methyl-, 3-(trimetoxysilyl) propyl ester, hydrolysis products with silica	68909-20-6	Data not available-insufficient	N/A	N/A	N/A	N/A
Sodium P-Toluenesulfinate	824-79-3	Experimental Biodegradation	28 days	BOD	91 %BOD/ThBOD	OECD 301C - MITI test (I)
Titanium dioxide	13463-67-7	Data not available-insufficient	N/A	N/A	N/A	N/A
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	93962-71-1	Modeled Biodegradation	28 days	BOD	70 %BOD/ThBOD	Catalogic™
Calcium dihydroxide	1305-62-0	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Glass powder (65997-17-3), surface modified with 2-propenoic acid, 2 methyl-.3-(trimethoxysilyl)propyl ester (2530-85-0), bulk material	None	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	Estimated Bioconcentration		Log Kow	7.61	Estimated: Octanol-water partition coefficient
2,4,6(1H,3H,5	945012-02-2	Data not	N/A	N/A	N/A	N/A

H)-Pyrimidinetrione, 5-phenyl-1-(phenylmethyl)-, calcium salt (2:1)		available or insufficient for classification				
1,12-dodecane dimethycrylate	72829-09-5	Modeled Bioconcentration		Bioaccumulation factor	6.6	Catalogic™
2-Propenoic Acid, 2-Methyl-, 2-[(2-Hydroxyethyl)(3-Methoxypropyl)Amino]Ethyl Ester	93962-70-0	Estimated Bioconcentration		Bioaccumulation factor	2.4	Estimated: Bioconcentration factor
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
Sodium P-Toluenesulfinate	824-79-3	Estimated Bioconcentration		Bioaccumulation factor	3.9	Estimated: Bioconcentration factor
Titanium dioxide	13463-67-7	Experimental BCF - Carp	42 days	Bioaccumulation factor	9.6	Non-standard method
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	93962-71-1	Modeled Bioconcentration		Bioaccumulation factor	3.6	Catalogic™
[(3-methoxypropyl)imino]di-2,1-ethanediyl bismethacrylate	93962-71-1	Modeled Bioconcentration		Log Kow	1.7	ACD/Labs ChemSketch™
Calcium dihydroxide	1305-62-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ((2-Propenoic Acid, 2-Methyl-,1,12-Dodecanedidyl Ester))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, environmentally hazardous substance exception.
Hazchem Code: 2Z
IERG: 47

International Air Transport Association (IATA) - Air Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ((2-Propenoic Acid, 2-Methyl-,1,12-Dodecanedidyl Ester))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: UN3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , ((2-Propenoic Acid, 2-Methyl-,1,12-Dodecanedidyl Ester))
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Marine Pollutant: Not applicable.
Special Instructions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

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.

SECTION 16: Other information

Revision information:
Complete document review.

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