Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchbond™ Universal Plus Vial (41294, 41295, 41296, 41307)

Product Identification Numbers
UU-0109-0661-6 UU-0109-0662-4

1.2. Recommended use and restrictions on use

Recommended use
Dental Product, For use only by dental professionals in approved indications

Restrictions on use
Dental Adhesive

1.3. Supplier's details
Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number
24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996, the Hazardous Substances (Classification) Notice 2017 and Hazardous Substances (Minimum Degrees of Hazard) Notice 2017.
Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture

GHS	HSNO
Flammable Liquid: Category 2	3.1B Flammable Liquid
Serious Eye Damage/Irritation: Category 1	8.3A Corrosive to eye
Skin Corrosion/Irritation: Category 2	6.3A Irritating to the skin

Skin Sensitiser: Category 1	6.5B Skin sensitiser
Chronic Aquatic Toxicity: Category 2	9.1B Aquatic toxicity (chronic)
Acute Aquatic Toxicity: Category 2	9.1D Aquatic toxicity (acute)

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols:
Flame | Corrosion | Exclamation mark | Environment |

Pictograms

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240B	Ground and bond container and receiving equipment.
P242A	Use non-sparking tools.
P233	Keep container tightly closed.
P243A	Take action to prevent static discharges.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280B	Wear protective gloves and eye/face protection.
P273	Avoid release to the environment.
P264B	Wash exposed skin thoroughly after handling.
P272A	Contaminated work clothing must 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 CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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 hazards

- May cause chemical gastrointestinal burns. This material has been tested for skin corrosion/irritation and the test results are reflected in the assigned classification.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	2305048-54-6	25 - 35
2-Hydroxyethyl methacrylate	868-77-9	15 - 25
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2	< 20
2-Propenoic acid, 2-methyl-, 3-(triethoxysilyl)propyl ester and (3-aminopropyl)triethoxysilane, reaction products with vitreous silica	None	5 - 15
Ethanol	64-17-5	5 - 15
Water	7732-18-5	5 - 15
Camphorquinone	10373-78-1	< 2
Copolymer of acrylic and itaconic acid	25948-33-8	< 2
Ethyl 4-dimethylaminobenzoate	10287-53-3	< 2
3-Aminopropyltriethoxysilane	919-30-2	< 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

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.

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

If swallowed

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

The most important symptoms and effects based on the CLP classification include:

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
Formaldehyde	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.
Oxides of nitrogen.	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. 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.

5.4. Hazchem code: -3WE

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Cover spill area with a fire extinguishing foam that is resistant to polar solvents. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with detergent and water. 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

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling
A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharge. 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. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Certified handler
Not required

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Copper compounds		ACGIH	TWA(as Cu, fume):0.2 mg/m3;TWA(as Cu dust or mist):1 mg/m3	
Ethanol		ACGIH	STEL:1000 ppm	A3: Confirmed animal carcinogen.
Ethanol		New Zealand WES	TWA(8 hours):1880 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
New Zealand WES : New Zealand Workplace Exposure Standards.
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m^3: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

Skin/hand protection
See Section 7.1 for additional information on skin protection.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous Liquid
Colour	Yellow
Odour	Alcohol
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	> 78 ºC
Flash point	± 21 ºC [*Test Method:*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.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	± 1.1 g/cm3
Relative density	± 1.1
Water solubility	Appreciable
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	*Not applicable.*
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*

Nanoparticles
This material contains nanoparticles.

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
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 corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen.

Additional information:
This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

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	Professional judgement	LD50 NA mg/kg
Overall product	Ingestion	Rat	LD50 > 9,090 mg/kg
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Rat	LD50 > 2,000 mg/kg
2-Hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
Ethanol	Dermal	Rabbit	LD50 > 15,800 mg/kg

Ethanol	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
Ethanol	Ingestion	Rat	LD50 17,800 mg/kg
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Ingestion	Rat	LD50 > 2,000 mg/kg
Camphorquinone	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Camphorquinone	Ingestion	Rat	LD50 > 2,000 mg/kg
Copolymer of acrylic and itaconic acid	Ingestion	Rat	LD50 > 5,000 mg/kg
Copolymer of acrylic and itaconic acid	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
Ethyl 4-dimethylaminobenzoate	Dermal	Rat	LD50 > 2,000 mg/kg
Ethyl 4-dimethylaminobenzoate	Ingestion	Rat	LD50 > 2,000 mg/kg
3-Aminopropyltriethoxysilane	Dermal	Rabbit	LD50 4,290 mg/kg
3-Aminopropyltriethoxysilane	Ingestion	Rat	LD50 1,570 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Irritant
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vitro data	Irritant
2-Hydroxyethyl methacrylate	Rabbit	Minimal irritation
Ethanol	Rabbit	No significant irritation
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	In vitro data	Corrosive
Ethyl 4-dimethylaminobenzoate	Rabbit	No significant irritation
3-Aminopropyltriethoxysilane	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vitro data	No significant irritation
2-Hydroxyethyl methacrylate	Rabbit	Moderate irritant
Ethanol	Rabbit	Severe irritant
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	In vitro data	Corrosive
Ethyl 4-dimethylaminobenzoate	Rabbit	Mild irritant
3-Aminopropyltriethoxysilane	Rabbit	Corrosive

Sensitisation:

Skin Sensitisation

Name	Species	Value
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Professional judgement	Sensitising
2-Hydroxyethyl methacrylate	Human and animal	Sensitising

Ethanol	Human	Not classified
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Professional judgement	Sensitising
3-Aminopropyltriethoxysilane	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
Overall product	In Vitro	Not mutagenic
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In vivo	Not mutagenic
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Hydroxyethyl methacrylate	In vivo	Not mutagenic
2-Hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethanol	In vivo	Some positive data exist, but the data are not sufficient for classification
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
2-Hydroxyethyl methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Hydroxyethyl methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-Hydroxyethyl methacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Ethanol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethanol	Ingestion	Not classified for development	Rat	NOAEL	premating &

				5,200 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Ethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethanol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
Ethanol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
Copolymer of acrylic and itaconic acid	Ingestion	nervous system	Not classified	Rat	NOAEL 5,000 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Overall product	Ingestion	heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 0.00212 mg/kg/day	28 days
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers	Ingestion	heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
Ethanol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethanol	Inhalation	hematopoietic system | immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethanol	Ingestion	liver	Some positive data exist, but the	Rat	LOAEL	4 months

			data are not sufficient for classification		8,000 mg/kg/day	
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
Copolymer of acrylic and itaconic acid	Ingestion	endocrine system | hematopoietic system | liver	Not classified	Rat	NOAEL 200 mg/kg/day	28 days
Copolymer of acrylic and itaconic acid	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days

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

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

SECTION 12: Ecological information

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
Ecotoxic to the aquatic environment.
Acute Aquatic Toxicity: Category 2 (HSNO 9.1D Aquatic toxicity)
Chronic Aquatic Toxicity: Category 2 (HSNO 9.1B Aquatic toxicity)

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers			Data not available or insufficient for classification			N/A
2-Hydroxyethyl methacrylate		Fathead minnow	Experimental	96 hours	LC50	227 mg/l
2-Hydroxyethyl methacrylate		Green algae	Experimental	72 hours	EC50	710 mg/l
2-		Water flea	Experimental	48 hours	EC50	380 mg/l

Hydroxyethyl methacrylate						
2-Hydroxyethyl methacrylate		Green Algae	Experimental	72 hours	NOEC	160 mg/l
2-Hydroxyethyl methacrylate		Water flea	Experimental	21 days	NOEC	24.1 mg/l
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)			Data not available or insufficient for classification			N/A
Ethanol		Fathead minnow	Experimental	96 hours	LC50	14,200 mg/l
Ethanol		Fish other	Experimental	96 hours	LC50	11,000 mg/l
Ethanol		Green algae	Experimental	72 hours	EC50	275 mg/l
Ethanol		Water flea	Experimental	48 hours	LC50	5,012 mg/l
Ethanol		Green algae	Experimental	72 hours	ErC10	11.5 mg/l
Ethanol		Water flea	Experimental	10 days	NOEC	9.6 mg/l
Camphorquinone			Data not available or insufficient for classification			N/A
Copolymer of acrylic and itaconic acid			Data not available or insufficient for classification			N/A
Ethyl 4-dimethylamino benzoate		Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Ethyl 4-dimethylamino benzoate		Green Algae	Experimental	72 hours	EC50	2.8 mg/l
Ethyl 4-dimethylamino benzoate		Rainbow trout	Experimental	96 hours	LC50	1.9 mg/l
Ethyl 4-dimethylamino benzoate		Water flea	Experimental	48 hours	EC50	4.5 mg/l
Ethyl 4-dimethylamino benzoate		Green Algae	Experimental	72 hours	ErC10	0.71 mg/l
3-Aminopropyltriethoxysilane		Bacteria	Experimental	5.75 hours	EC50	43 mg/l
3-Aminopropyltriethoxysilane		Crustecea other	Experimental	48 hours	LC50	580 mg/l
3-		Green algae	Experimental	72 hours	EC50	603 mg/l

Aminopropyltriethoxysilane						
3-Aminopropyltriethoxysilane		Water flea	Experimental	48 hours	EC50	331 mg/l
3-Aminopropyltriethoxysilane		Zebra Fish	Experimental	96 hours	LC50	>934 mg/l
3-Aminopropyltriethoxysilane		Green algae	Experimental	72 hours	NOEC	1.3 mg/l
Acetic acid, copper(2+) salt, monohydrate		Algae other	Experimental	72 hours	EC50	0.005 mg/l
Acetic acid, copper(2+) salt, monohydrate		Common Carp	Experimental	96 days	LC50	0.004 mg/l
Acetic acid, copper(2+) salt, monohydrate		Crustacea	Experimental	96 hours	EC50	>12.8 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers		Experimental Biodegradation	28 days	CO2 evolution	3.69 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
2-Hydroxyethyl methacrylate		Experimental Biodegradation	14 days	BOD	95 % BOD/ThBOD	OECD 301C - MITI test (I)
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)		Estimated Biodegradation	28 days	BOD	91 % weight	OECD 301C - MITI test (I)
Ethanol		Experimental Biodegradation	14 days	BOD	89 % BOD/ThBOD	OECD 301C - MITI test (I)
Camphorquinone		Estimated Biodegradation	28 days	BOD	20.6 % BOD/ThBOD	OECD 301C - MITI test (I)
Copolymer of acrylic and itaconic acid		Data not availbl-insufficient			N/A	
Ethyl 4-dimethylamino		Experimental Biodegradation	28 days	CO2 evolution	40 %CO2 evolution/THC	OECD 301B - Modified sturm or CO2

benzoate					O2 evolution	
3-Aminopropyltriethoxysilane		Estimated Photolysis		Photolytic half-life (in air)	7.28 hours (t 1/2)	Non-standard method
3-Aminopropyltriethoxysilane		Experimental Hydrolysis		Hydrolytic half-life	8.5 hours (t 1/2)	Non-standard method
3-Aminopropyltriethoxysilane		Experimental Biodegradation	28 days	BOD	54 % BOD/ThBOD	OECD 301C - MITI test (I)
Acetic acid, copper(2+) salt, monohydrate		Data not availbl-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
2-Propenoic acid, 2-methyl-, diesters with 4,6-dibromo-1,3-benzenediol 2-(2-hydroxyethoxy)ethyl 3-hydroxypropyl diethers		Estimated Bioconcentration		Bioaccumulation factor	6.5	Catalogic™
2-Hydroxyethyl methacrylate		Experimental Bioconcentration		Log Kow	0.42	Non-standard method
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)		Estimated Bioconcentration		Bioaccumulation factor	4.5	Non-standard method
Ethanol		Experimental Bioconcentration		Log Kow	-0.35	Non-standard method
Camphorquinone		Estimated Bioconcentration		Bioaccumulation factor	7.1	Estimated: Bioconcentration factor
Copolymer of acrylic and itaconic acid		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethyl 4-dimethylaminobenzoate		Experimental Bioconcentration		Log Kow	3.2	Non-standard method
3-Aminopropyltriethoxysilane		Experimental BCF-Carp	56 days	Bioaccumulation factor	<3.4	OECD 305E - Bioaccumulation flow-through fish test

Acetic acid, copper(2+) salt, monohydrate		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
In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Incinerate uncured product in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

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

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport
UN No.: UN2924
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. , (ETHANOL, 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHORUS OXIDE (P2O5))
Class/Division: 3
Sub Risk: 8
Packing Group: II
Special Instructions:DANGEROUS GOODS IN EXCEPTED QUANTITIES: CLASS
Hazchem Code: -3WE
IERG: 18

International Air Transport Association (IATA) - Air Transport
UN No.: UN2924
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. , (ETHANOL, 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHORUS OXIDE (P2O5))
Class/Division: 3
Sub Risk: 8
Packing Group: II
Special Instructions: Dangerous goods in Excepted Quantities, Class 3

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: UN2924
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. , (ETHANOL, 2-PROPENOIC ACID, 2-METHYL-, REACTION PRODUCTS WITH 1,10-DECANEDIOL AND PHOSPHORUS OXIDE (P2O5))
Class/Division: 3
Sub Risk: 8
Packing Group: II
Marine Pollutant: Not applicable.
Special Instructions: Dangerous goods in Excepted Quantities, Class 3

SECTION 15: Regulatory information

HSNO Approval number	HSR002556
Group standard name	Dental Products (Flammable) Group Standard 2017
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

Controls in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017

Certified handler	Not required
Location Compliance Certificate	100 L (closed containers greater than 5 L) 250 L (closed containers up to and including 5 L) 50 L (open containers)
Hazardous atmosphere zone	100 L (closed containers) 25 L (decanting) 5 L (open occasionally) 1 L (open containers in continuous use)
Fire extinguishers	Two required for 250 L
Emergency response plan	100 L (for a HSNO 9.1A substance) or 1,000 L (for all other substances)
Secondary containment	100 L (for a HSNO 9.1A substance) or 1,000 L (for all other substances)
Tracking	Not required
Warning signage	100 L (for a HSNO 9.1A substance), or 250 L (for all other substances)

SECTION 16: Other information

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Initial issue.

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Key to abbreviations and acronyms
GHS means the Globally Harmonised System of Classification and Labelling of Chemicals, 5th revised edition 2013
HSNO means Hazardous Substances and New Organisms Act 1996

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