Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M™ ESPE™ Scotchbond™ Universal

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Dental Product

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
This material is exempt from hazard classification according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Flammable; R10
Irritant; Xi; R41
Sensitizing; R43

For full text of R phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)

None.

Contains:

No ingredients are assigned to the label.

Risk phrases None.
Safety phrases None.

Notes on labelling
This product is exempt from labelling per Directive 1999/45/EC as it is defined as a medical device according to Directive 93/42/EEC and is invasive or comes into contact with the human body.

Based on the results of toxicity tests, this material was found to be nonirritating to the skin, but can cause serious eye damage (Xi; R41).

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	EINECS 216-367-7	15 - 25	R43 (Self Classified) Skin Sens. 1B, H317 (Self Classified)
2-Hydroxyethyl methacrylate	868-77-9	EINECS 212-782-2	15 - 25	Xi:R36-38; R43 - Nota D (EU) Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 - Nota D (CLP)
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica	122334-95-6	EINECS 310-178-4	5 - 15	
1,10-decanediyl bismethacrylate	6701-13-9	EINECS 229-745-1	5 - 15	Xi:R36-37-38; R43 (Self Classified) Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 (Self Classified)
Non Hazardous Ingredient	Mixture		10 - 15	
Ethanol	64-17-5	EINECS 200-578-6	10 - 15	F:R11 (EU) Flam. Liq. 2, H225 (CLP)
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2		1 - 10	Xi:R37-41; R43 (Self Classified) Eye Dam. 1, H318; Skin Sens. 1,

				H317; STOT SE 3, H335 (Self Classified)
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8		1 - 5	
(Dimethylamino)Ethyl Methacrylate	2867-47-2	EINECS 220-688-8	< 2	Xn:R21-22; Xi:R36-38; R43 - Nota D (EU) R52 (Self Classified) Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 - Nota D (CLP) Aquatic Chronic 3, H412 (Self Classified)
Ethyl 4-dimethylaminobenzoate	10287-53-3	EINECS 233-634-3	< 2	Xn:R22; N:R51/53 (Self Classified) Acute Tox. 4, H302; Aquatic Chronic 2, H411 (Self Classified)
dl-bornane-2,3-dione	10373-78-1	EINECS 233-814-1	< 2	
Butanone	78-93-3	EINECS 201-159-0	< 0.5	F:R11; Xi:R36; R66; R67 (EU) Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066 (CLP)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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. Extinguishing media
In case of fire: Use a fire fighting agent suitable for flammable liquids and solids 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. Advice 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
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR-AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. 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.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ethanol	64-17-5	Health and Safety Comm. (UK)	TWA:1920 mg/m³(1000 ppm)	
Butanone	78-93-3	Health and Safety Comm. (UK)	TWA: 600 mg/m³ (200 ppm); STEL: 899 mg/m³ (300 ppm)	Skin Notation

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values

Ingredient	CAS Nbr	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
Butanone	78-93-3	UK EH40 BMGVs	Butan-2-one	Urine	EOS	70 umol/L	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)
EOS: End of shift.

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous Liquid
Appearance/Odour	Characteristic odour, yellow liquid
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	>= 78 ºC
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	30.5 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative density	1 - 1.2 [*Ref Std:*WATER=1]
Water solubility	Appreciable
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*Not applicable.*
Density	1 - 1.2 g/cm3

9.2. Other information

Volatile organic compounds (VOC)	*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 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
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
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

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	Ingestion		No data available; calculated ATE4,876.4 mg/kg
2-Hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion		LD50 estimated to be 2,000 - 5,000 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

1,10-decanediyl bismethacrylate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
dl-bornane-2,3-dione	Ingestion	similar compounds	LD50 300-2000 mg/kg
Ethyl 4-dimethylaminobenzoate	Ingestion		LD50 estimated to be 300 - 2,000 mg/kg
(Dimethylamino)Ethyl Methacrylate	Dermal	Rat	LD50 > 2,000 mg/kg
(Dimethylamino)Ethyl Methacrylate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.436 mg/l
(Dimethylamino)Ethyl Methacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
Butanone	Dermal	Rabbit	LD50 > 8,050 mg/kg
Butanone	Inhalation-Vapor (4 hours)	Rat	LC50 34.5 mg/l
Butanone	Ingestion	Rat	LD50 2,737 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Rabbit	No significant irritation
2-Hydroxyethyl methacrylate	Rabbit	Minimal irritation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Minimal irritation
Ethanol	Rabbit	No significant irritation
1,10-decanediyl bismethacrylate		Irritant
Butanone	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	In vitro data	Corrosive
2-Hydroxyethyl methacrylate	Rabbit	Moderate irritant
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Moderate irritant
Ethanol	Rabbit	Moderate irritant
1,10-decanediyl bismethacrylate		Severe irritant
Butanone	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
2-Hydroxyethyl methacrylate	Human and animal	Sensitising
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Guinea pig	Sensitising
Ethanol	Human	Some positive data exist, but the data are not sufficient for classification
1,10-decanediyl bismethacrylate		Sensitising

Respiratory Sensitisation

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
2-Hydroxyethyl methacrylate	In vivo	Not mutagenic
2-Hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	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
Butanone	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
Butanone	Inhalation	Human	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2-Hydroxyethyl methacrylate	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Hydroxyethyl methacrylate	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-Hydroxyethyl methacrylate	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not toxic to development	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
Ethanol	Inhalation	Not toxic to development	Rat	NOAEL 38 mg/l	during gestation
Ethanol	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation
Butanone	Inhalation	Not toxic to female reproduction	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Inhalation	Not toxic to male reproduction	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	LOAEL 8.8 mg/l	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 2.6 mg/l	30 minutes
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	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL not available	
Ethanol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg	
1,10-decanediyl bismethacrylate	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
Butanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classifica	NOAEL Not available	

				tion		
Butanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Butanone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	not applicable
Butanone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1,080 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	endocrine system | liver | nervous system | kidney and/or bladder	All data are negative	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
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	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25 mg/l	14 days
Ethanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethanol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg/day	7 days
Butanone	Dermal	nervous system	All data are negative	Guinea pig	NOAEL Not available	31 weeks
Butanone	Inhalation	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Inhalation	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles	All data are negative	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	7 days
Butanone	Ingestion	nervous system	All data are negative	Rat	NOAEL 173 mg/kg/day	90 days

Aspiration Hazard

Name	Value

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

SECTION 12: Ecological information

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

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Ricefish	Experimental	96 hours	LC50	19 mg/l
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Water flea	Experimental	48 hours	EC50	33 mg/l
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Green Algae	Experimental	72 hours	EC50	9 mg/l
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Fathead minnow	Estimated	96 hours	LC50	1.1 mg/l
Ethanol	64-17-5	Water flea	Experimental	48 hours	EC50	5,012 mg/l
Ethanol	64-17-5	Green algae	Experimental	96 hours	EC50	1,000 mg/l
Ethanol	64-17-5	Rainbow trout	Experimental	96 hours	LC50	42 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	48 hours	EC50	380 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Fathead minnow	Experimental	96 hours	LC50	227 mg/l
Butanone	78-93-3	Ricefish	Laboratory	96 hours	LC50	>100 mg/l
Ethyl 4-dimethylamino benzoate	10287-53-3	Fathead minnow	Estimated	96 hours	LC50	8.8 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	EC50	345 mg/l
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Green Algae	Experimental	72 hours	NOEC	1 mg/l
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Water flea	Experimental	21 days	NOEC	0.48 mg/l
Ethanol	64-17-5	Green algae	Experimental	96 hours	NOEC	<500 mg/l
Ethanol	64-17-5	Water flea	Experimental	11 days	NOEC	=9.6 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	NOEC	160 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	21 days	NOEC	24.1 mg/l
Butanone	78-93-3	Green algae	Laboratory	72 hours	NOEC	93 mg/l
Butanone	78-93-3	Water flea	Laboratory	21 days	NOEC	100 mg/l
2-Propenoic	122334-95-6		Data not			

acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica			available or insufficient for classification			
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2		Data not available or insufficient for classification			
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8		Data not available or insufficient for classification			
1,10-decanediyl bismethacrylate	6701-13-9		Data not available or insufficient for classification			
dl-bornane-2,3-dione	10373-78-1		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica	122334-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,10-decanediyl	6701-13-9	Estimated Photolysis		Photolytic half-life (in air)	7.52 hours (t 1/2)	Other methods

bismethacrylate						
1,10-decanediyl bismethacrylate	6701-13-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Estimated Photolysis		Photolytic half-life (in air)	3.88 hours (t 1/2)	Other methods
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Experimental Hydrolysis		Hydrolytic half-life	4.54 days (t 1/2)	Other methods
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	95 % weight	OECD 301E - Modified OECD Scre
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Photolysis		Photolytic half-life (in air)	3.1 hours (t 1/2)	Other methods
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Biodegradation	28 days	BOD	29 % weight	OECD 301C - MITI test (I)
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Estimated Biodegradation	28 days	BOD	33 % weight	OECD 301C - MITI test (I)
2-Hydroxyethyl methacrylate	868-77-9	Estimated Photolysis		Photolytic half-life (in air)	1.3 days (t 1/2)	Other methods
2-Hydroxyethyl methacrylate	868-77-9	Experimental Hydrolysis		Hydrolytic half-life	10.9 days (t 1/2)	Other methods
2-Hydroxyethyl methacrylate	868-77-9	Experimental Biodegradation	14 days	BOD	95 % weight	OECD 301C - MITI test (I)
Butanone	78-93-3	Calculated Photolysis		Photolytic half-life (in air)	2.8 days (t 1/2)	Other methods
Butanone	78-93-3	Laboratory Photolysis		Photolytic half-life (in air)	28 days (t 1/2)	Other methods
Butanone	78-93-3	Laboratory Biodegradation	20 days	BOD	89 % weight	Other methods
Ethanol	64-17-5	Experimental Photolysis		Photolytic half-life (in air)	9.41 days (t 1/2)	Other methods
Ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 % weight	OECD 301C - MITI test (I)
dl-bornane-2,3-dione	10373-78-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2-Propenoic acid, 2-methyl-, reaction products with 1,10-decanediol and phosphorus oxide (P2O5)	1207736-18-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica	122334-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,10-decanediyl bismethacrylate	6701-13-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(Dimethylamino)Ethyl Methacrylate	2867-47-2	Experimental Bioconcentration		Log Kow	1.13	Other methods
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Bioconcentration		Bioaccumulation factor	19	Estimated: Bioconcentration factor
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Hydroxyethyl methacrylate	868-77-9	Experimental Bioconcentration		Log Kow	0.47	Other methods
Butanone	78-93-3	Laboratory Bioconcentration		Log Kow	0.29	Other methods
Ethanol	64-17-5	Modeled BCF - Other	28 days	Bioaccumulation factor	3.16	Estimated: Bioconcentration factor
Ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.31	Other methods
dl-bornane-2,3-dione	10373-78-1	Modeled Bioconcentration		Log Kow	1.52 mg/l	Estimated: Octanol-water partition coefficient

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)
180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

IMDG: Dangerous goods in excepted quantities, Class 3
IATA: UN1133 - Dangerous goods in excepted quantities, Class 3
ADR: Dangerous goods in excepted quantities, Class 3

SECTION 15: Regulatory information

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

Global inventory status
Contact 3M for more information.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

List of relevant R-phrases

R11	Highly flammable.
R21	Harmful in contact with skin.
R22	Harmful if swallowed.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R52	Harmful to aquatic organisms.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Revision information:

Revision Changes:
Section 16: List of relevant R phrase information information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 9: Flammability (solid, gas) information information was modified.
Section 14: Transportation classification information was modified.
Section 16: Regulations - Inventories - EU ONLY information was modified.
Copyright information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 11: Health Effects - Additional Information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 8: Personal Protection - Eye information information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 15: Symbol information information was added.
Section 2: Label ingredient information information was added.
Section 12: Component ecotoxicity information information was added.
Section 12: Persistence and Degradability information information was added.
Section 12:Bioccumulative potential information information was added.
Section 12: Component Ecotoxicity table Material column header information was added.
Section 12: Component Ecotoxicity table CAS No column header information was added.
Section 12: Component Ecotoxicity table Organism column header information was added.
Section 12: Component Ecotoxicity table Type column header information was added.

Section 12: Component Ecotoxicity table Exposure column header information was added.
Section 12: Component Ecotoxicity table End point column header information was added.
Section 12: Component Ecotoxicity table Result column header information was added.
Section 12: Persistence and degradability table Material column header information was added.
Section 12: Persistence and degradability table CAS No column header information was added.
Section 12: Persistence and degradability table Test Type column header information was added.
Section 12: Persistence and degradability table Duration column header information was added.
Section 12: Persistence and degradability table Test Result column header information was added.
Section 12: Persistence and degradability table Protocol column header information was added.
Section 12:Bioccumulative potential table Material column header information was added.
Section 12:Bioccumulative potential table CAS No column header information was added.
Section 12:Bioccumulative potential table CAS No column header information was added.
Section 12:Bioccumulative potential table Test Result column header information was added.
Section 12:Bioccumulative potential table Protocol column header information was added.
Section 12:Bioccumulative potential table Test Type column header information was added.
Label: CLP Classification - Header information was added.
Label: CLP Classification information was added.
Section 2: 2.2 & 2.3. CLP REGULATION heading information was added.
Section 12: Persistence and degradability table Study Type column header information was added.
Section 12:Bioccumulative potential table Test Type column header information was added.
Risk phrase - None information was added.
Section 9: Odour Threshold information was added.
Section 9: Solubility (non-water) information was added.
Section 09: Decomposition Temperature information was added.
Legend description information was added.
BLV Reg Agency Desc information was added.
Section 10: Hazardous decomposition products during combustion text information was added.
Section 11: Disclosed components not in tables text information was added.
Section 8: 8.1.1 Biological limit values table heading information was added.
Section 8: BLV table information was added.
Section 8: BLV table ingredient column heading information was added.
Section 8: BLV table cas nbr column heading information was added.
Section 8: BLV table agency column heading information was added.
Section 8: BLV table cas nbr column heading information was added.
Section 8: BLV table biological specimen Column heading information was added.
Section 8: BLV table sampling time Column heading information was added.
Section 8: BLV table value Column heading information was added.
Section 8: BLV table additional comments Column heading information was added.
Section 02: Graphic information information was added.
Section 9: Flammability (solid, gas) information information was added.
Risk phrase information was deleted.
Safety phrase information was deleted.
Section 8: Eye/face protection text information was deleted.
Section 2: Label ingredient information information was deleted.
Section 12: Acute aquatic hazard information information was deleted.
Section 12: Chronic aquatic hazard heading information was deleted.
Section 12: Acute aquatic hazard heading information was deleted.
Section 12: Chronic aquatic hazard information information was deleted.
Prints No Data if Component ecotoxicity information is not present information was deleted.
Prints No Data if Persistence and Degradability information is not present information was deleted.
Prints No Data if Bioccumulative potential information is not present information was deleted.
Section 8: mg/m³ key information was deleted.
Section 8: ppm key information was deleted.
Section 11: Aspiration Hazard Table information was deleted.
Section 11: Respiratory Sensitization Table information was deleted.
Label: Graphic information was deleted.

Label: Graphic Text information was deleted.

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