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™ Scotch-Weld™ Acrylic Structural Adhesive DP-8005 (Part B)

Product Identification Numbers
FS-9100-3811-6

7000080038

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

Identified uses
Structural adhesive.

1.3. Details of the supplier of the safety data sheet
Address: 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone: +353 1 280 3555
E Mail: tox.uk@mmm.com
Website: www.3M.com

1.4. Emergency telephone number
Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

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

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Sensitization, Category 1 - Skin Sens. 1; H317

Reproductive Toxicity, Category 1B - Repr. 1B; H360D
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols
GHS05 (Corrosion) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Tetrahydrofurfuryl methacrylate	2455-24-5	219-529-5	40 - 50
2-Ethylhexyl methacrylate	688-84-6	211-708-6	10 - 20
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	244-096-4	3 - 7
succinic anhydride	108-30-5	203-570-0	< 1
2-hydroxyethyl methacrylate	868-77-9	212-782-2	< 0.2
methyl methacrylate	80-62-6	201-297-1	< 0.2

HAZARD STATEMENTS:

H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P280B	Wear protective gloves and eye/face protection.

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.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H318	Causes serious eye damage.

H317	May cause an allergic skin reaction.
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

<=125 ml Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P280B	Wear protective gloves and eye/face protection.

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.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:
Restricted to professional users.

27% of the mixture consists of components of unknown acute oral toxicity.

2.3. Other hazards

None known.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetrahydrofurfuryl methacrylate	(CAS-No.) 2455-24-5 (EC-No.) 219-529-5 (REACH-No.) 01-2120748481-53	40 - 50	Skin Sens. 1, H317 Repr. 1B, H360D Aquatic Chronic 3, H412
Acrylate polymer	Trade Secret	20 - 30	Substance not classified as hazardous
2-Ethylhexyl methacrylate	(CAS-No.) 688-84-6 (EC-No.) 211-708-6 (REACH-No.) 01-2119490166-35	10 - 20	Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	(CAS-No.) 21282-97-3 (EC-No.) 244-311-1 (REACH-No.) 01-2119970348-28	3 - 7	Substance not classified as hazardous
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	(CAS-No.) 20882-04-6 (EC-No.) 244-096-4	3 - 7	Eye Dam. 1, H318 Skin Sens. 1, H317
Ashes (residues), cenospheres	(CAS-No.) 93924-19-7	1 - 5	Substance not classified as hazardous

	(EC-No.) 300-212-6 (REACH-No.) 01-2119563688-21		
succinic anhydride	(CAS-No.) 108-30-5 (EC-No.) 203-570-0 (REACH-No.) 01-2119485841-30	< 1	EUH071 Acute Tox. 4, H302 Skin Corr. 1, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317
methyl methacrylate	(CAS-No.) 80-62-6 (EC-No.) 201-297-1	< 0.2	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 Nota D
styrene	(CAS-No.) 100-42-5 (EC-No.) 202-851-5 (REACH-No.) 01-2119457861-32	< 0.2	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT RE 1, H372 Nota D Aquatic Chronic 3, H412 Asp. Tox. 1, H304 STOT SE 3, H335
2-hydroxyethyl methacrylate	(CAS-No.) 868-77-9 (EC-No.) 212-782-2	< 0.2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Nota D

Please see section 16 for the full text of any H statements referred to in this section

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

The most important symptoms and effects based on the CLP classification include:
Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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 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
Hydrocarbons.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	During combustion.

5.3. Advice 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.

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 vapours, 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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. 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. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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
Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Do not breathe 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.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. 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
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
styrene	100-42-5	Ireland OELs	TWA(8 hours):85 mg/m3(20 ppm);STEL(15 minutes):170 mg/m3(40 ppm)	
methyl methacrylate	80-62-6	Ireland OELs	TWA(8 hours):50 ppm;TWA(8 hours):50 ppm;STEL(15 minutes):100 ppm;STEL(15 minutes):100 ppm	Respiratory/Dermal Sensitizer

Ireland OELs : Ireland. OELs
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

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

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:
Full face shield.
Indirect vented goggles.

Applicable Norms/Standards
Use eye/face protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the

substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Colour	Off-White
Odor	Acrylic
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=110 ºC [*Details:*CAS #688-84-6]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	>=94 ºC [*Test Method:*Closed Cup] [*Details:*CAS #688-84-6]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	17,708 mm²/sec
Water solubility	*Not applicable.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	0.96 - 1 g/ml
Relative density	0.96 - 1 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*Not applicable.*
Percent volatile	1 %

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.
Sparks and/or flames.
Light.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

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

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >2,000 - =5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Tetrahydrofurfuryl methacrylate	Ingestion	Rat	LD50 4,000 mg/kg
Tetrahydrofurfuryl methacrylate	Dermal	similar health hazards	LD50 estimated to be 2,000 - 5,000 mg/kg
2-Ethylhexyl methacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2-Ethylhexyl methacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	Ingestion	Rat	LD50 > 2,000 mg/kg
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Dermal	Rat	LD50 > 2,000 mg/kg
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Ingestion	Rat	LD50 > 5,000 mg/kg
succinic anhydride	Dermal	Rat	LD50 > 2,000 mg/kg
succinic anhydride	Ingestion	Rat	LD50 1,510 mg/kg
methyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
methyl methacrylate	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
methyl methacrylate	Ingestion	Rat	LD50 7,900 mg/kg
2-hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
styrene	Dermal	Rat	LD50 > 2,000 mg/kg
styrene	Inhalation-Vapour (4 hours)	Rat	LC50 11.8 mg/l
styrene	Ingestion	Rat	LD50 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value

Tetrahydrofurfuryl methacrylate	Rabbit	No significant irritation
2-Ethylhexyl methacrylate	Rabbit	Minimal irritation
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	Professional judgement	Mild irritant
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Rabbit	No significant irritation
succinic anhydride	In vitro data	Corrosive
methyl methacrylate	Human and animal	Mild irritant
2-hydroxyethyl methacrylate	Rabbit	Minimal irritation
styrene	Professional judgement	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Tetrahydrofurfuryl methacrylate	Rabbit	No significant irritation
2-Ethylhexyl methacrylate	Rabbit	No significant irritation
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	In vitro data	Corrosive
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Rabbit	No significant irritation
succinic anhydride	similar health hazards	Corrosive
methyl methacrylate	Rabbit	Moderate irritant
2-hydroxyethyl methacrylate	Rabbit	Moderate irritant
styrene	Professional judgement	Moderate irritant

Skin Sensitisation

Name	Species	Value
Tetrahydrofurfuryl methacrylate	In vitro data	Sensitising
2-Ethylhexyl methacrylate	Guinea pig	Sensitising
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	Professional judgement	Sensitising
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Mouse	Not classified
succinic anhydride	Mouse	Sensitising
methyl methacrylate	Human and animal	Sensitising
2-hydroxyethyl methacrylate	Human and animal	Sensitising
styrene	Guinea pig	Not classified

Respiratory Sensitisation

Name	Species	Value
succinic anhydride	similar compoun	Sensitising

	ds	
methyl methacrylate	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Tetrahydrofurfuryl methacrylate	In Vitro	Not mutagenic
2-Ethylhexyl methacrylate	In Vitro	Not mutagenic
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	In Vitro	Not mutagenic
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	In vivo	Not mutagenic
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	In Vitro	Some positive data exist, but the data are not sufficient for classification
succinic anhydride	In Vitro	Not mutagenic
methyl methacrylate	In vivo	Not mutagenic
methyl methacrylate	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
styrene	In Vitro	Some positive data exist, but the data are not sufficient for classification
styrene	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
succinic anhydride	Ingestion	Multiple animal species	Not carcinogenic
methyl methacrylate	Ingestion	Rat	Not carcinogenic
methyl methacrylate	Inhalation	Human and animal	Not carcinogenic
styrene	Ingestion	Mouse	Carcinogenic.
styrene	Inhalation	Human and animal	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Tetrahydrofurfuryl methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	29 days
Tetrahydrofurfuryl methacrylate	Ingestion	Toxic to female reproduction	Rat	NOAEL 120 mg/kg/day	premating into lactation
Tetrahydrofurfuryl methacrylate	Ingestion	Toxic to development	Rat	NOAEL 120 mg/kg/day	premating into lactation
2-Ethylhexyl methacrylate	Ingestion	Not classified for male reproduction		NOAEL 1,000 mg/kg/day	49 days
2-Ethylhexyl methacrylate	Ingestion	Not classified for female reproduction		NOAEL 300 mg/kg/day	premating into lactation
2-Ethylhexyl methacrylate	Ingestion	Not classified for development		NOAEL 300 mg/kg/day	during gestation
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	56 days
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
methyl methacrylate	Inhalation	Not classified for male reproduction	Mouse	NOAEL 36.9	

				mg/l	
methyl methacrylate	Inhalation	Not classified for development	Rat	NOAEL 8.3 mg/l	during organogenesis
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
styrene	Ingestion	Not classified for female reproduction	Rat	NOAEL 21 mg/kg/day	3 generation
styrene	Inhalation	Not classified for female reproduction	Rat	NOAEL 2.1 mg/l	2 generation
styrene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.1 mg/l	2 generation
styrene	Ingestion	Not classified for male reproduction	Rat	NOAEL 400 mg/kg/day	60 days
styrene	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during gestation
styrene	Inhalation	Not classified for development	Multiple animal species	NOAEL 2.1 mg/l	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
succinic anhydride	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
methyl methacrylate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	auditory system	Causes damage to organs	Multiple animal species	LOAEL 4.3 mg/l	not available
styrene	Inhalation	liver	Causes damage to organs	Mouse	LOAEL 2.1 mg/l	not available
styrene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
styrene	Inhalation	endocrine system	Not classified	Rat	NOAEL Not available	not available
styrene	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2.1 mg/l	not available

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tetrahydrofurfuryl methacrylate	Ingestion	hematopoietic system | nervous system	Not classified	Rat	NOAEL 300 mg/kg/day	29 days
2-Ethylhexyl methacrylate	Ingestion	heart | endocrine system | hematopoietic system | liver | immune system |	Not classified	Rat	NOAEL 360 mg/kg/day	90 days

		nervous system | eyes | kidney and/or bladder				
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	Ingestion	hematopoietic system | nervous system | eyes	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
succinic anhydride	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory system	Not classified	Mouse	NOAEL 300 mg/kg/day	13 weeks
methyl methacrylate	Dermal	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
methyl methacrylate	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
methyl methacrylate	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	14 weeks
methyl methacrylate	Inhalation	liver	Not classified	Mouse	NOAEL 12.3 mg/l	14 weeks
methyl methacrylate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	auditory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL not available	occupational exposure
styrene	Inhalation	eyes	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	liver	May cause damage to organs though prolonged or repeated exposure	Mouse	LOAEL 0.85 mg/l	13 weeks
styrene	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	LOAEL 1.1 mg/l	not available
styrene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.85 mg/l	7 days
styrene	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.6 mg/l	10 days
styrene	Inhalation	respiratory system	Not classified	Multiple animal species	LOAEL 0.09 mg/l	not available
styrene	Inhalation	heart | gastrointestinal tract | bone, teeth, nails, and/or hair | muscles | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 4.3 mg/l	2 years
styrene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 500 mg/kg/day	8 weeks
styrene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
styrene	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 677 mg/kg/day	6 months
styrene	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 600 mg/kg/day	470 days
styrene	Ingestion	heart | respiratory system	Not classified	Rat	NOAEL 35 mg/kg/day	105 weeks

Aspiration Hazard

Name	Value
styrene	Aspiration hazard

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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Tetrahydrofurfuryl methacrylate	2455-24-5	Fathead minnow	Experimental	96 hours	LC50	34.7 mg/l
Tetrahydrofurfuryl methacrylate	2455-24-5	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Tetrahydrofurfuryl methacrylate	2455-24-5	Green algae	Experimental	72 hours	ErC10	100 mg/l
Tetrahydrofurfuryl methacrylate	2455-24-5	Water flea	Experimental	21 days	NOEC	37.2 mg/l
Acrylate polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
2-Ethylhexyl methacrylate	688-84-6	Green algae	Experimental	72 hours	ErC50	5.3 mg/l
2-Ethylhexyl methacrylate	688-84-6	Medaka	Experimental	96 hours	LC50	2.8 mg/l
2-Ethylhexyl methacrylate	688-84-6	Water flea	Experimental	48 hours	EC50	4.6 mg/l
2-Ethylhexyl methacrylate	688-84-6	Green algae	Experimental	72 hours	NOEC	0.81 mg/l
2-Ethylhexyl methacrylate	688-84-6	Water flea	Experimental	21 days	NOEC	0.105 mg/l
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Green algae	Experimental	72 hours	ErC50	>312 mg/l
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Water flea	Experimental	48 hours	EC50	>515.4 mg/l
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Green algae	Experimental	72 hours	ErC10	>=161 mg/l
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Activated sludge	Experimental	3 hours	NOEC	320 mg/l
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l

Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Water flea	Experimental	48 hours	EL50	>100 mg/l
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Green algae	Experimental	72 hours	NOEC	11.1 mg/l
Ashes (residues), cenospheres	93924-19-7	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
Ashes (residues), cenospheres	93924-19-7	Green algae	Experimental	72 hours	EL50	>100 mg/l
Ashes (residues), cenospheres	93924-19-7	Guppy	Experimental	96 hours	LL50	>100 mg/l
Ashes (residues), cenospheres	93924-19-7	Water flea	Experimental	48 hours	EL50	>100 mg/l
Ashes (residues), cenospheres	93924-19-7	Green algae	Experimental	72 hours	NOEL	100 mg/l
Ashes (residues), cenospheres	93924-19-7	Water flea	Experimental	21 days	NOEL	100 mg/l
succinic anhydride	108-30-5	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
succinic anhydride	108-30-5	Water flea	Analogous Compound	48 hours	EC50	>100 mg/l
succinic anhydride	108-30-5	Zebra Fish	Analogous Compound	96 hours	LC50	>100 mg/l
succinic anhydride	108-30-5	Green algae	Analogous Compound	72 hours	NOEC	100 mg/l
2-hydroxyethyl methacrylate	868-77-9	Turbot	Analogous Compound	96 hours	LC50	833 mg/l
2-hydroxyethyl methacrylate	868-77-9	Fathead minnow	Experimental	96 hours	LC50	227 mg/l
2-hydroxyethyl methacrylate	868-77-9	Green algae	Experimental	72 hours	EC50	710 mg/l
2-hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	48 hours	EC50	380 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
2-hydroxyethyl methacrylate	868-77-9	N/A	Experimental	16 hours	EC0	>3,000 mg/l
2-hydroxyethyl methacrylate	868-77-9	N/A	Experimental	18 hours	LD50	<98 mg per kg of bodyweight
methyl methacrylate	80-62-6	Green algae	Experimental	72 hours	EC50	>110 mg/l
methyl methacrylate	80-62-6	Rainbow trout	Experimental	96 hours	LC50	>79 mg/l
methyl methacrylate	80-62-6	Water flea	Experimental	48 hours	EC50	69 mg/l
methyl methacrylate	80-62-6	Green algae	Experimental	72 hours	NOEC	110 mg/l
methyl methacrylate	80-62-6	Water flea	Experimental	21 days	NOEC	37 mg/l
methyl methacrylate	80-62-6	Activated sludge	Experimental	30 minutes	EC20	150 mg/l
methyl methacrylate	80-62-6	Soil microbes	Experimental	28 days	NOEC	>1,000 mg/kg (Dry Weight)
styrene	100-42-5	Activated sludge	Experimental	30 minutes	EC50	500 mg/l
styrene	100-42-5	Fathead minnow	Experimental	96 hours	LC50	4.02 mg/l
styrene	100-42-5	Green algae	Experimental	72 hours	EC50	4.9 mg/l
styrene	100-42-5	Water flea	Experimental	48 hours	EC50	4.7 mg/l

styrene	100-42-5	Green algae	Experimental	96 hours	EC10	0.28 mg/l
styrene	100-42-5	Water flea	Experimental	21 days	NOEC	1.01 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Tetrahydrofurfuryl methacrylate	2455-24-5	Experimental Biodegradation	28 days	BOD	75 %BOD/ThOD (< 10 day window)	OECD 301F - Manometric respirometry
Acrylate polymer	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
2-Ethylhexyl methacrylate	688-84-6	Experimental Biodegradation	28 days	BOD	88 %BOD/ThOD	OECD 301C - MITI test (I)
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Experimental Biodegradation	28 days	BOD	≥80 %BOD/ThOD (< 10 day window)	OECD 301F - Manometric respirometry
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Experimental Biodegradation	28 days	BOD	64 %BOD/ThOD	OECD 301C - MITI test (I)
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	6.5 days (t 1/2)	OECD 111 Hydrolysis func of pH
Ashes (residues), cenospheres	93924-19-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
succinic anhydride	108-30-5	Hydrolysis product Biodegradation	28 days	Dissolv. Organic Carbon Deplet	96.55 %removal of DOC	OECD 301E - Modif. OECD Screen
succinic anhydride	108-30-5	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	4.3 minutes (t 1/2)	
2-hydroxyethyl methacrylate	868-77-9	Experimental Biodegradation	28 days	BOD	84 %BOD/COD	OECD 301D - Closed bottle test
2-hydroxyethyl methacrylate	868-77-9	Experimental Hydrolysis		Hydrolytic half-life basic pH	10.9 days (t 1/2)	OECD 111 Hydrolysis func of pH
methyl methacrylate	80-62-6	Experimental Biodegradation	14 days	BOD	94 %BOD/ThOD	OECD 301C - MITI test (I)
styrene	100-42-5	Experimental Biodegradation	28 days	BOD	70.9 %BOD/ThOD	
styrene	100-42-5	Experimental Photolysis		Photolytic half-life (in air)	6.64 hours (t 1/2)	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Tetrahydrofurfuryl methacrylate	2455-24-5	Experimental Bioconcentration		Log Kow	1.76	OECD 117 log Kow HPLC method
Acrylate polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Ethylhexyl methacrylate	688-84-6	Experimental Bioconcentration	96 hours	Bioaccumulation factor	37	OECD305-Bioconcentration
2-Ethylhexyl methacrylate	688-84-6	Experimental Bioconcentration		Log Kow	4.95	similar to OECD 107
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Experimental Bioconcentration		Log Kow	0.782	EC A.8 Partition Coefficient
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Experimental Bioconcentration		Log Kow	0.9	OECD 107 log Kow shke flsk mtd
Ashes (residues), cenospheres	93924-19-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

succinic anhydride	108-30-5	Experimental Bioconcentration		Log Kow	2.44	OECD 117 log Kow HPLC method
2-hydroxyethyl methacrylate	868-77-9	Experimental Bioconcentration		Log Kow	0.42	OECD 107 log Kow shke flsk mtd
methyl methacrylate	80-62-6	Experimental Bioconcentration		Log Kow	1.38	OECD 107 log Kow shke flsk mtd
styrene	100-42-5	Experimental Bioconcentration		Log Kow	2.96	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Tetrahydrofurfuryl methacrylate	2455-24-5	Modeled Mobility in Soil	Koc	25 l/kg	Episuite™
2-Ethylhexyl methacrylate	688-84-6	Modeled Mobility in Soil	Koc	2,348 l/kg	Episuite™
[2-[(2-Methyl-1-oxoallyl)oxy]ethyl] hydrogen succinate	20882-04-6	Modeled Mobility in Soil	Koc	1 l/kg	ACD/Labs ChemSketch™
Butanoic acid, 3-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester	21282-97-3	Experimental Mobility in Soil	Koc	51-129 l/kg	OECD 106 Adsp-Desb Batch Equil
2-hydroxyethyl methacrylate	868-77-9	Experimental Mobility in Soil	Koc	42.7 l/kg	
methyl methacrylate	80-62-6	Experimental Mobility in Soil	Koc	8.7-72 l/kg	

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or 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)
08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

Not hazardous for transportation.

ADR/IMDG/IATA: Not restricted for transport.

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	No data available.	No data available.	No data available.
14.2 UN proper shipping name	No data available.	No data available.	No data available.
14.3 Transport hazard class(es)	No data available.	No data available.	No data available.
14.4 Packing group	No data available.	No data available.	No data available.
14.5 Environmental hazards	No data available.	No data available.	No data available.
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	No data available.	No data available.	No data available.
IMDG Segregation Code	No data available.	No data available.	No data available.

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
methyl methacrylate	80-62-6	Gr. 3: Not classifiable	International Agency for Research on Cancer
styrene	100-42-5	Grp. 2A: Probable human carc.	International Agency for Research on Cancer
succinic anhydride	108-30-5	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
methyl methacrylate	80-62-6	50	200
styrene	100-42-5	10	50

Regulation (EU) No 649/2012
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

EUH071	Corrosive to the respiratory tract.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Section 3: Composition/ Information of ingredients table information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.

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 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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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