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™ VHB™ Tape Max Promoter Clear

Product Identification Numbers

70-0111-4565-6	70-0111-4566-4	70-0111-4567-2	70-0111-4645-6
7100363048	7100362728	7100363011	7100396555

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

Identified uses
Adhesion promoter.

1.3. Details of the supplier of the safety data sheet
Address: 3M Ireland Limited, 70 SIR JOHN ROGERSON'S QUAY, D02R296 DUBLIN 2
Telephone: +353 1 280 3555
E Mail: ner-productstewardship@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:
Flammable Liquid, Category 2 - Flam. Liq. 2; H225
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318

Skin Sensitization, Category 1 - Skin Sens. 1; H317
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336

For full text of H phrases, see Section 16.

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

SIGNAL WORD
DANGER.

Symbols
GHS02 (Flame) |GHS05 (Corrosion) |GHS07 (Exclamation mark) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
propan-1-ol	71-23-8	200-746-9	40 - 80
(R)-p-mentha-1,8-diene	5989-27-5	227-813-5	< 10

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261A	Avoid breathing vapours.
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.

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]
propan-1-ol	(CAS-No.) 71-23-8 (EC-No.) 200-746-9	40 - 80	Flam. Liq. 2, H225 Eye Dam. 1, H318 STOT SE 3, H336
dimethyl carbonate	(CAS-No.) 616-38-6 (EC-No.) 210-478-4 (REACH-No.) 01-2119548399-23	10 - 30	Flam. Liq. 2, H225
(R)-p-mentha-1,8-diene	(CAS-No.) 5989-27-5 (EC-No.) 227-813-5	< 10	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 1, H400,M=1 Aquatic Chronic 3, H412 Nota C
Polyamide Resin	Trade Secret	< 5	Substance not classified as hazardous
Acrylate Resin	Trade Secret	< 5	Substance not classified as hazardous
propan-2-ol	(CAS-No.) 67-63-0 (EC-No.) 200-661-7	< 2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

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. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

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

4.2. Most important symptoms and effects, both acute and delayed
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). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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 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
Hydrocarbons.	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. 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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. 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 vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode.

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. Cover spill area with a fire-extinguishing foam. 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 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
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. 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
propan-2-ol	67-63-0	Ireland OELs	TWA(8 hours):200 ppm;STEL(15 minutes):400 ppm	SKIN
propan-1-ol	71-23-8	Ireland OELs	TWA(8 hours):100 ppm	SKIN

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. Use explosion-proof ventilation 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:

Safety glasses with side shields.
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 16321

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**
Nitrile rubber.	No data available	No data available
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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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:	Liquid.
Colour	Yellow
Odor	Orange
Odour threshold	*No data available.*
Melting point/freezing point	*No data available.*
Boiling point/boiling range	93.2 ºC [@ 101,324.72 Pa]
Flammability	Flammable Liquid: Category 2.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	19 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*

pH	6
Kinematic Viscosity	*No data available.*
Water solubility	1 %
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	3,333.1 Pa [@ 20 ºC]
Density	0.85 g/ml
Relative density	0.85 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*
Particle Characteristics	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Molecular weight	*No data available.*
Percent volatile	93 % weight [*Details:*measured]
Solids content	7 %

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
Sparks and/or flames.

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 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
May be harmful if inhaled. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

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

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

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

Additional Health Effects:

Single exposure may cause target organ effects:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
propan-1-ol	Dermal	Rabbit	LD50 4,000 mg/kg
propan-1-ol	Inhalation-Vapour (4 hours)	Rat	LC50 > 34 mg/l
propan-1-ol	Ingestion	Rat	LD50 estimated to be 2,000 - 5,000 mg/kg
dimethyl carbonate	Dermal	Rabbit	LD50 > 2,000 mg/kg
dimethyl carbonate	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.36 mg/l
dimethyl carbonate	Ingestion	Rat	LD50 > 5,000 mg/kg
(R)-p-mentha-1,8-diene	Inhalation-Vapour (4 hours)	Mouse	LC50 > 3.14 mg/l
(R)-p-mentha-1,8-diene	Dermal	Rabbit	LD50 > 5,000 mg/kg
(R)-p-mentha-1,8-diene	Ingestion	Rat	LD50 4,400 mg/kg
Polyamide Resin	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Polyamide Resin	Ingestion	Professional	LD50 estimated to be > 5,000 mg/kg

		judgement	
Acrylate Resin	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Acrylate Resin	Ingestion	Professional judgement	LD50 estimated to be > 5,000 mg/kg
propan-2-ol	Dermal	Rabbit	LD50 12,870 mg/kg
propan-2-ol	Inhalation-Vapour (4 hours)	Rat	LC50 72.6 mg/l
propan-2-ol	Ingestion	Rat	LD50 4,710 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
propan-1-ol	Rabbit	Minimal irritation
dimethyl carbonate	Rabbit	Minimal irritation
(R)-p-mentha-1,8-diene	Rabbit	Irritant
Polyamide Resin	Professional judgement	No significant irritation
Acrylate Resin	Professional judgement	No significant irritation
propan-2-ol	Multiple animal species	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
propan-1-ol	Rabbit	Severe irritant
dimethyl carbonate	Rabbit	Mild irritant
(R)-p-mentha-1,8-diene	Rabbit	Mild irritant
Polyamide Resin	Professional judgement	No significant irritation
Acrylate Resin	Professional judgement	No significant irritation
propan-2-ol	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
propan-1-ol	Guinea pig	Not classified
dimethyl carbonate	Guinea pig	Not classified
(R)-p-mentha-1,8-diene	Mouse	Sensitising
Polyamide Resin	Professional judgement	Not classified
Acrylate Resin	Professio	Not classified

	nal judgemen t	
propan-2-ol	Guinea pig	Not classified

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

Germ Cell Mutagenicity

Name	Route	Value
propan-1-ol	In Vitro	Some positive data exist, but the data are not sufficient for classification
dimethyl carbonate	In Vitro	Not mutagenic
dimethyl carbonate	In vivo	Not mutagenic
(R)-p-mentha-1,8-diene	In Vitro	Not mutagenic
(R)-p-mentha-1,8-diene	In vivo	Not mutagenic
propan-2-ol	In Vitro	Not mutagenic
propan-2-ol	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
propan-1-ol	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
(R)-p-mentha-1,8-diene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
propan-2-ol	Inhalation	Rat	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
propan-1-ol	Inhalation	Not classified for male reproduction	Rat	NOAEL 8.6 mg/l	6 weeks
propan-1-ol	Inhalation	Not classified for development	Rat	NOAEL 8.6 mg/l	during gestation
dimethyl carbonate	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	1 generation
dimethyl carbonate	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	1 generation
dimethyl carbonate	Ingestion	Not classified for development	Rabbit	NOAEL 1,000 mg/kg/day	during gestation
(R)-p-mentha-1,8-diene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
(R)-p-mentha-1,8-diene	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
propan-2-ol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
propan-2-ol	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
propan-2-ol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis
propan-2-ol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
propan-1-ol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Mouse	NOAEL 5 mg/l	4 hours
propan-1-ol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	
propan-1-ol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
(R)-p-mentha-1,8-diene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
(R)-p-mentha-1,8-diene	Ingestion	nervous system	Not classified		NOAEL Not available	
propan-2-ol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
propan-2-ol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
propan-2-ol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
propan-2-ol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
propan-1-ol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 70 mg/kg/day	83 weeks
propan-1-ol	Ingestion	liver	Not classified	Rat	LOAEL 70 mg/kg/day	83 weeks
dimethyl carbonate	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 500 mg/kg/day	13 weeks
(R)-p-mentha-1,8-diene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
(R)-p-mentha-1,8-diene	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
(R)-p-mentha-1,8-diene	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
propan-2-ol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
propan-2-ol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
propan-2-ol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks

Aspiration Hazard

Name	Value
(R)-p-mentha-1,8-diene	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
propan-1-ol	71-23-8	Activated sludge	Experimental	3 hours	IC50	>1,000 mg/l
propan-1-ol	71-23-8	Algae or other aquatic plants	Experimental	96 hours	EC50	4,480 mg/l
propan-1-ol	71-23-8	Fathead minnow	Experimental	96 hours	LC50	4,555 mg/l
propan-1-ol	71-23-8	Fish	Experimental	96 hours	LC50	3,000 mg/l
propan-1-ol	71-23-8	Water flea	Experimental	48 hours	EC50	3,642 mg/l
propan-1-ol	71-23-8	Water flea	Experimental	21 days	NOEC	100 mg/l
dimethyl carbonate	616-38-6	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
dimethyl carbonate	616-38-6	Green algae	Experimental	72 hours	ErC50	>100 mg/l
dimethyl carbonate	616-38-6	Water flea	Experimental	48 hours	EC50	>100 mg/l
dimethyl carbonate	616-38-6	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
dimethyl carbonate	616-38-6	Green algae	Experimental	72 hours	NOEC	100 mg/l
dimethyl carbonate	616-38-6	Water flea	Experimental	21 days	NOEC	25 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	96 hours	LC50	0.702 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC50	0.32 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	48 hours	EC50	0.307 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Fathead minnow	Experimental	8 days	EC10	0.32 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Green algae	Experimental	72 hours	ErC10	0.174 mg/l
(R)-p-mentha-1,8-diene	5989-27-5	Water flea	Experimental	21 days	NOEC	0.153 mg/l
Acrylate Resin	Trade Secret	N/A	Data not available or insufficient for	N/A	N/A	N/A % weight

			classification			
Polyamide Resin	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
propan-2-ol	67-63-0	Bacteria	Experimental	16 hours	LOEC	1,050 mg/l
propan-2-ol	67-63-0	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
propan-2-ol	67-63-0	Invertebrate	Experimental	24 hours	LC50	>10,000 mg/l
propan-2-ol	67-63-0	Medaka	Experimental	96 hours	LC50	>100 mg/l
propan-2-ol	67-63-0	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
propan-2-ol	67-63-0	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
propan-2-ol	67-63-0	Water flea	Experimental	21 days	NOEC	100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
propan-1-ol	71-23-8	Experimental Biodegradation	20 days	BOD	73 %BOD/ThOD	OECD 301D - Closed bottle test
dimethyl carbonate	616-38-6	Experimental Biodegradation	28 days	BOD	86 %BOD/ThOD	OECD 301C - MITI test (I)
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	BOD	98 %BOD/ThOD	OECD 301C - MITI test (I)
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Biodegradation	14 days	Dissolv. Organic Carbon Deplet	>93.8 %removal of DOC	OECD 303A - Simulated Aerobic
Acrylate Resin	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Polyamide Resin	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
propan-2-ol	67-63-0	Experimental Biodegradation	14 days	BOD	86 %BOD/ThOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
propan-1-ol	71-23-8	Experimental Bioconcentration		Log Kow	0.2	
dimethyl carbonate	616-38-6	Experimental Bioconcentration		Log Kow	0.354	OECD 107 log Kow shke flsk mtd
(R)-p-mentha-1,8-diene	5989-27-5	Modeled Bioconcentration		Bioaccumulation factor	2100	Catalogic™
(R)-p-mentha-1,8-diene	5989-27-5	Experimental Bioconcentration		Log Kow	4.57	
Acrylate Resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyamide Resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
propan-2-ol	67-63-0	Experimental Bioconcentration		Log Kow	0.05	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
dimethyl carbonate	616-38-6	Modeled Mobility in Soil	Koc	7 l/kg	Episuite™
(R)-p-mentha-1,8-diene	5989-27-5	Modeled Mobility	Koc	9,245 l/kg	Episuite™

		in Soil			

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.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN1133	UN1133	UN1133
14.2 UN proper shipping name	ADHESIVES	ADHESIVES	ADHESIVES
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Not Environmentally Hazardous	Not applicable	Not a Marine Pollutant

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	F1	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

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
(R)-p-mentha-1,8-diene	5989-27-5	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

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
P5c FLAMMABLE LIQUIDS*	5000	50000

*If maintained at a temperature above its boiling point or if particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, P5a or P5b FLAMMABLE LIQUIDS may apply

Seveso named dangerous substances, Annex 1, Part 2
None

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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Section 1: Address information was modified.
Section 1: E-mail address information was modified.
Section 1: Product identification numbers information was modified.
Section 1: Product name information was modified.
Section 01: SAP Material Numbers information was modified.
Section 08: Personal Protection - Apron Statement information was added.
Section 8: Personal Protection - Skin/body information information was deleted.
Section 8: Skin protection - protective clothing information information was deleted.
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: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 14 Hazardous/Not Hazardous for Transportation information was added.
Section 14 Proper Shipping Name 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.

3M Ireland MSDSs are available at www.3M.com