Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

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

1.2. Recommended use and restrictions on use

Recommended use
Adhesion promoter.

1.3. Supplier's details
Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture
Flammable Liquid: Category 2.
Acute Toxicity (oral): Category 5.
Acute Toxicity (inhalation): Category 5.
Skin Corrosion/Irritation: Category 3.
Serious Eye Damage/Irritation: Category 2A
Skin Sensitizer: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 3.
Acute Aquatic Toxicity: Category 2.

2.2. Label elements
Signal Word
Danger

Symbols
Flame | Exclamation mark |

Pictograms

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H303 + H333	May be harmful if swallowed or if inhaled.
H316	Causes mild skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H401	Toxic to aquatic life.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Propan-1-ol	71-23-8	40 - 80
Dimethyl Carbonate	616-38-6	10 - 30
d-limonene	5989-27-5	< 10
Acrylate Polymer	Trade Secret	< 5
Polyamide Resin	Trade Secret	< 5
Propan-2-ol	67-63-0	< 2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

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

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

Allergic skin reaction (redness, swelling, blistering, and itching). 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. Suitable Extinguishing media
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.
Oxides of nitrogen.	During combustion.

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use PPE - Exposure Assessment 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 vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

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 in accordance with applicable local/regional/national/international regulations.

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 vapor 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.

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
d-limonene	5989-27-5	AIHA	TWA:165.5 mg/m3(30 ppm)	
Propan-2-ol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 ppm	A4: Not class. as human carcin
Propan-1-ol	71-23-8	ACGIH	TWA:100 ppm	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

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.

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: Nitrile rubber.
Polymer laminate

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 – Nitrile
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Color	Yellow
Odor	Orange
Odour threshold	*No data available.*
pH	6
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	93.2 ºC [@ 101,324.72 Pa]
Flash point	19 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability	Flammable Liquid: Category 2.
Flammable Limits(LEL)	*No data available.*

Flammable Limits(UEL)	*No data available.*
Vapour pressure	3,333.1 Pa [@ 20 ºC]
Relative Vapor Density	*No data available.*
Density	0.85 g/ml
Relative density	0.85 [*Ref Std:*WATER=1]
Water solubility	1 %
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	630 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*Low Solids Calculation]
Volatile organic compounds (VOC)	73 % [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*weight percent]
Percent volatile	93 % weight [*Details:*measured]
VOC less H2O & exempt solvents	745 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*No data available.*
Solids content	7 %

Particle Characteristics	*Not applicable.*

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

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

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. 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-Vapor(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-Vapor (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		estimated to be > 5,000 mg/kg
Dimethyl Carbonate	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
Dimethyl Carbonate	Inhalation-Vapor		estimated to be > 50 mg/l
Dimethyl Carbonate	Ingestion		estimated to be > 5,000 mg/kg
d-limonene	Inhalation-Vapor (4 hours)	Mouse	LC50 > 3.14 mg/l
d-limonene	Dermal	Rabbit	LD50 > 5,000 mg/kg
d-limonene	Ingestion	Rat	LD50 4,400 mg/kg
Propan-2-ol	Dermal	Rabbit	LD50 12,870 mg/kg
Propan-2-ol	Inhalation-	Rat	LC50 72.6 mg/l

	Vapor (4 hours)		
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
d-limonene	Rabbit	Irritant
Propan-2-ol	Multiple animal species	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Propan-1-ol	Rabbit	Severe irritant
d-limonene	Rabbit	Mild irritant
Propan-2-ol	Rabbit	Severe irritant

Sensitization:

Skin Sensitisation

Name	Species	Value
Propan-1-ol	Guinea pig	Not classified
d-limonene	Mouse	Sensitising
Propan-2-ol	Guinea pig	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Propan-1-ol	In Vitro	Some positive data exist, but the data are not sufficient for classification
d-limonene	In Vitro	Not mutagenic
d-limonene	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
d-limonene	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
d-limonene	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
d-limonene	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	
d-limonene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
d-limonene	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
d-limonene	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
d-limonene	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
d-limonene	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system |	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks

		respiratory system				
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
d-limonene	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.

SECTION 12: Ecological information

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

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	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
d-limonene	5989-27-5	Fathead minnow	Experimental	96 hours	LC50	0.702 mg/l
d-limonene	5989-27-5	Green algae	Experimental	72 hours	ErC50	0.32 mg/l
d-limonene	5989-27-5	Water flea	Experimental	48 hours	EC50	0.307 mg/l
d-limonene	5989-27-5	Fathead minnow	Experimental	8 days	EC10	0.32 mg/l
d-limonene	5989-27-5	Green algae	Experimental	72 hours	ErC10	0.174 mg/l
d-limonene	5989-27-5	Water flea	Experimental	21 days	NOEC	0.153 mg/l
Acrylate Polymer	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)
d-limonene	5989-27-5	Experimental Biodegradation	14 days	BOD	98 %BOD/ThOD	OECD 301C - MITI test (I)
d-limonene	5989-27-5	Experimental Biodegradation	14 days	Dissolv. Organic Carbon Deplet	>93.8 %removal of DOC	OECD 303A - Simulated Aerobic
Acrylate Polymer	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Polyamide Resin	Trade Secret	Data not available-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 Nbr	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
d-limonene	5989-27-5	Modeled Bioconcentration		Bioaccumulation factor	2100	Catalogic™
d-limonene	5989-27-5	Experimental Bioconcentration		Log Kow	4.57	
Acrylate Polymer	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
Please contact manufacturer for more details

12.5 Other Adverse effects
No information available.

SECTION 13: Disposal considerations

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

Incinerate in a permitted waste incineration facility. 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.

SECTION 14: Transport Information

Air Transport (IATA)Regulations

UN No UN1993
Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (contains Propanol)
Hazard Classs/Division 3
Subsidiary Risk Not applicable
Packing Group: II

Marine Transport (IMDG)
UN No UN1993
Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (contains Propanol)
Hazard Classs/Division 3
Subsidiary Risk Not applicable
Packing Group: II
Environmental Hazards: Not applicable

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.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
Propan-2-ol

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
Product is classified as Very Highly Flammable liquid as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include

the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision information:
Section 1: Product name information was modified.
Label: GHS Classification information was modified.
Label: GHS Precautionary - Prevention information was modified.
Label: GHS Precautionary - Response information was modified.
Label: Graphic information was modified.
Label: Symbol information was modified.
Section 2: Ingredient table information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 8: Skin protection - protective clothing information information was modified.
Section 8: Skin protection - recommended gloves information information was modified.
Section 9: Flash point information information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was modified.
Section 11: Cancer Hazards information information was deleted.
Section 11: Carcinogenicity 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 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.

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