Safety Data Sheet

Document group:	22-5319-3	**Version number:**	1.01
Issue Date:	14/08/2026	**Supersedes date:**	08/07/2024

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 Adhesion Promoter K-540NT

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.
Serious Eye Damage/Irritation: Category 2A
Skin Sensitizer: Category 1A.
Specific Target Organ Toxicity (single exposure): Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.
Aspiration Hazard: Category 1.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements

Signal Word
Danger

Symbols
Flame |Exclamation mark |Health Hazard |Environment |

Pictograms

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H303 + H333	May be harmful if swallowed or if inhaled.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H304	May be fatal if swallowed and enters airways.
H371	May cause damage to organs: respiratory system.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280E	Wear protective gloves.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
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.
P391	Collect spillage.

2.3. Other hazards
Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Methylcyclohexane	108-87-2	60 - 70
n-Butyl acetate	123-86-4	20 - 30

Propan-2-ol	67-63-0	5 - 15
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	1 - 5
Polyamideamine	Trade Secret	1 - 5
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	0.1 - 1

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

If swallowed
Do not induce vomiting. Get immediate medical attention.

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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic skin reaction (redness, swelling, blistering, and itching). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

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
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	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 that is resistant to polar solvents. 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
For industrial/occupational use only. Not for consumer sale or use. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) 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 heat. 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
Methylcyclohexane	108-87-2	ACGIH	TWA:100 ppm	
Propan-2-ol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 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: Polymer laminate

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Color	Tan
Odor	Solvent
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point: NA	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	101 ºC [*Test Method:*Estimated] [*Details:*based on

	methylcyclohexane]
Flash point	-3.9 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	*No data available.*
Relative Vapor Density	*No data available.*
Density	0.81 g/cm3 [*Ref Std:*WATER=1]
Relative density	0.81 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	265 ºC [*Test Method:*Estimated]
Decomposition temperature	*No data available.*
Kinematic Viscosity	4.7 mm^2/sec
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*
Molecular weight	*No data available.*

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
Heat.
Sparks and/or flames.

10.5 Incompatible materials
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 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
Prolonged or repeated exposure may cause: Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin. Dermal Defatting: Signs/symptoms may include localised redness, itching, drying and cracking of skin. 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.
Chemical (aspiration) pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish coloured skin (cyanosis), and may be fatal. 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. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

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	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
Methylcyclohexane	Inhalation-Vapor	Professional judgement	LC50 estimated to be 20 - 50 mg/l
Methylcyclohexane	Ingestion	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Methylcyclohexane	Dermal	similar compounds	LD50 > 2,000 mg/kg
n-Butyl acetate	Dermal	Rabbit	LD50 > 14,112 mg/kg
n-Butyl acetate	Inhalation-	Rat	LC50 1.8 mg/l

	Dust/Mist (4 hours)		
n-Butyl acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 21 mg/l
n-Butyl acetate	Ingestion	Rat	LD50 > 10,760 mg/kg
Propan-2-ol	Dermal	Rabbit	LD50 12,870 mg/kg
Propan-2-ol	Inhalation-Vapor (4 hours)	Rat	LC50 72.6 mg/l
Propan-2-ol	Ingestion	Rat	LD50 4,710 mg/kg
2,5-Furandione, reaction products with polypropylene, chlorinated	Dermal	Guinea pig	LD50 > 1,000 mg/kg
2,5-Furandione, reaction products with polypropylene, chlorinated	Ingestion	Rat	LD50 > 3,200 mg/kg
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Dermal	Rat	LD50 > 2,000 mg/kg
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Methylcyclohexane	Rabbit	No significant irritation
n-Butyl acetate	Rabbit	No significant irritation
Propan-2-ol	Multiple animal species	No significant irritation
2,5-Furandione, reaction products with polypropylene, chlorinated	Guinea pig	No significant irritation
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Rat	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Methylcyclohexane	Rabbit	No significant irritation
n-Butyl acetate	Human	Mild irritant
Propan-2-ol	Rabbit	Severe irritant
2,5-Furandione, reaction products with polypropylene, chlorinated	Professional judgement	Mild irritant
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Methylcyclohexane	similar compounds	Not classified
n-Butyl acetate	Multiple animal species	Not classified
Propan-2-ol	Guinea pig	Not classified
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Mouse	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value

Methylcyclohexane	In Vitro	Not mutagenic
n-Butyl acetate	In Vitro	Not mutagenic
Propan-2-ol	In Vitro	Not mutagenic
Propan-2-ol	In vivo	Not mutagenic
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	In vivo	Not mutagenic
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Methylcyclohexane	Inhalation	Multiple animal species	Not carcinogenic
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
Methylcyclohexane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Methylcyclohexane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
n-Butyl acetate	Inhalation	Not classified for female reproduction	Rat	NOAEL 9.5 mg/l	2 generation
n-Butyl acetate	Inhalation	Not classified for male reproduction	Rat	NOAEL 9.5 mg/l	2 generation
n-Butyl acetate	Inhalation	Not classified for development	Rat	NOAEL 3.6 mg/l	2 generation
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
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	Not classified for development	Rat	NOAEL 150 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Methylcyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Methylcyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
n-Butyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
n-Butyl acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not	not available

					available	
n-Butyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	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
Methylcyclohexane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	heart	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	skin	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	endocrine system	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	immune system	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	nervous system	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Inhalation	respiratory system	Not classified	Rat	NOAEL 8 mg/l	1 years
Methylcyclohexane	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000	28 days

					mg/kg/day	
Methylcyclohexane	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Methylcyclohexane	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
n-Butyl acetate	Inhalation	endocrine system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	liver	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	nervous system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 4.8 mg/l	13 weeks
n-Butyl acetate	Inhalation	respiratory system	Not classified	Rat	NOAEL 4.8 mg/l	13 weeks
n-Butyl acetate	Inhalation	heart	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	immune system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	eyes	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
n-Butyl acetate	Inhalation	vascular system	Not classified	Rat	NOAEL 9.6 mg/l	13 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
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	endocrine system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	immune system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	heart	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	skin	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	muscles	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	eyes	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	respiratory system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	Ingestion	vascular system	Not classified	Rat	NOAEL 500 mg/kg/day	90 days

Aspiration Hazard

Name	Value
Methylcyclohexane	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 1: Very toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Methylcyclohexane	108-87-2	N/A	Experimental	96 hours	LC50	3.3 mg/l
Methylcyclohexane	108-87-2	Green algae	Experimental	72 hours	ErC50	0.134 mg/l
Methylcyclohexane	108-87-2	Medaka	Experimental	96 hours	LC50	2.07 mg/l
Methylcyclohexane	108-87-2	Striped bass	Experimental	96 hours	LC50	5.8 mg/l
Methylcyclohexane	108-87-2	Water flea	Experimental	48 hours	EC50	0.326 mg/l
Methylcyclohexane	108-87-2	Green algae	Experimental	72 hours	NOEC	0.022 mg/l
n-Butyl acetate	123-86-4	Green algae	Analogous Compound	72 hours	ErC50	397 mg/l
n-Butyl acetate	123-86-4	Fathead minnow	Experimental	96 hours	LC50	18 mg/l
n-Butyl acetate	123-86-4	Water flea	Experimental	48 hours	EC50	44 mg/l
n-Butyl acetate	123-86-4	Green algae	Analogous Compound	72 hours	NOEC	196 mg/l
n-Butyl acetate	123-86-4	Water flea	Analogous Compound	21 days	NOEC	23.2 mg/l
n-Butyl acetate	123-86-4	Ciliated protozoa	Experimental	40 hours	IC50	356 mg/l
n-Butyl acetate	123-86-4	Lettuce	Experimental	14 days	EC50	>1,000 mg/kg (Dry Weight)
Propan-2-ol	67-63-0	Green algae	Experimental	72 hours	ErC50	>1,000 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
Propan-2-ol	67-63-0	Bacteria	Experimental	16 hours	LOEC	1,050 mg/l
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Green algae	Experimental	72 hours	EbC50	9 mg/l
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Rainbow trout	Experimental	96 hours	LC50	7.5 mg/l

p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Water flea	Experimental	48 hours	EC50	67.9 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Methylcyclohexane	108-87-2	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301D - Closed bottle test
Methylcyclohexane	108-87-2	Experimental Photolysis		Photolytic half-life (in air)	3.0 days (t 1/2)	
n-Butyl acetate	123-86-4	Experimental Biodegradation	28 days	BOD	83 %BOD/ThOD	OECD 301D - Closed bottle test
n-Butyl acetate	123-86-4	Experimental Photolysis		Photolytic half-life (in air)	6.3 days (t 1/2)	
n-Butyl acetate	123-86-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	3.1 years (t 1/2)	
Propan-2-ol	67-63-0	Experimental Biodegradation	14 days	BOD	86 %BOD/ThOD	OECD 301C - MITI test (I)
Propan-2-ol	67-63-0	Experimental Photolysis		Photolytic half-life (in air)	6.2 days (t 1/2)	
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	Data not available-insufficient	N/A	N/A	N/A	N/A
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Experimental Biodegradation	28 days	BOD	1.1 %BOD/ThOD	OECD 301D - Closed bottle test
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	17 days (t 1/2)	OECD 111 Hydrolysis func of pH

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Methylcyclohexane	108-87-2	Experimental BCF - Fish	56 days	Bioaccumulation factor	<=321	OECD305-Bioconcentration
Methylcyclohexane	108-87-2	Experimental Bioconcentration		Log Kow	3.88	
n-Butyl acetate	123-86-4	Experimental Bioconcentration		Log Kow	2.3	OECD 117 log Kow HPLC method
Propan-2-ol	67-63-0	Experimental Bioconcentration		Log Kow	0.05	OECD 107 log Kow shke flsk mtd
2,5-Furandione, reaction products with polypropylene, chlorinated	68609-36-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Modeled Bioconcentration		Bioaccumulation factor	27	Catalogic™
p-tert-Butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	Experimental Bioconcentration		Log Kow	3.59	OECD 107 log Kow shke flsk mtd

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 UN1866
Proper Shipping Name RESIN SOLUTION
Hazard Classs/Division 3
Subsidiary Risk Not applicable
Other Dangerous Goods Descriptions: None assigned.

Packing Group: II

Marine Transport (IMDG)
UN No UN1866
Proper Shipping Name RESIN SOLUTION
Hazard Classs/Division 3
Subsidiary Risk Not applicable
Other Dangerous Goods Descriptions: None assigned.

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. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

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
n-Butyl acetate

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:
The 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:** 1 **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:

Label: GHS Classification information was modified.
Label: GHS Precautionary - Response information was modified.
Label: Graphic information was modified.
Label: Symbol information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Occupational exposure limit table 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 8: Skin protection - recommended gloves information information was modified.
Section 8: Skin protection - recommended gloves text information was added.
Section 8: Skin protection - recommended gloves text information was deleted.
Section 09: Vapor Density Value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information 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.
Section 14: Air Transport - Other Dangerous Goods Descriptions heading information was added.
Section 14: Marine Transport - Other Dangerous Goods Descriptions heading information was added.
Section 14: Other Dangerous Goods Descriptions (IATA) information was added.
Section 14: Other Dangerous Goods Descriptions (IMO) information was added.

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation 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 India, you are responsible to comply with all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

3M India SDSs are available at http://solutions.3mindia.co.in