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™ Spray Adhesive 76 (PL 4439)

Product Identification Numbers
YP-2080-6116-5

7000116779

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

Identified uses
Product

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

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

SECTION 2: Hazard identification

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

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.
The aspiration hazard classification is not required because the product is an aerosol.

CLASSIFICATION:
Aerosol, Category 1 - Aerosol 1; H222, H229

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H336
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

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) |GHS07 (Exclamation mark) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
methyl acetate	79-20-9	201-185-2	10 - 30

HAZARD STATEMENTS:

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	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.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261E	Avoid breathing vapour or spray.
P273	Avoid release to the environment.

Storage:

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Contains 2% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

May displace oxygen and cause rapid suffocation.
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]
dimethyl ether	(CAS-No.) 115-10-6 (EC-No.) 204-065-8	30 - 60	Flam. Gas 1A, H220 Liquified gas, H280 Nota U
methyl acetate	(CAS-No.) 79-20-9 (EC-No.) 201-185-2 (REACH-No.) 01-2119459211-47	10 - 30	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066
cyclohexane	(CAS-No.) 110-82-7 (EC-No.) 203-806-2 (REACH-No.) 01-2119463273-41	5 - 15	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	(CAS-No.) 31393-98-3	3 - 7	Aquatic Chronic 4, H413
SBR stabilized	Trade Secret	1 - 5	Substance not classified as hazardous
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL)BENZENE	(CAS-No.) 100199-62-0	< 2.5	Substance not classified as hazardous
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	(CAS-No.) 9017-27-0	< 2.5	Substance not classified as hazardous
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	(EC-No.) 920-901-0	0.5 - 1.5	Asp. Tox. 1, H304 EUH066
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	(EC-No.) 927-676-8	0.5 - 1.5	Asp. Tox. 1, H304 EUH066

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
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
Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye contact
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist,

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:
Irritation to the skin (localized redness, swelling, itching, and dryness). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired 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
Use a fire fighting agent suitable for the surrounding fire.

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.
formaldehyde	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	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
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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. 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.

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
For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. 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. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF. Store away from heat. Store away from acids. Store away from oxidising agents.

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
cyclohexane	110-82-7	Ireland OELs	TWA(8 hours):700 mg/m3(200 ppm);TWA(8 hours):200 ppm(700 mg/m3)	
dimethyl ether	115-10-6	Ireland OELs	TWA(8 hours):1920 mg/m3(1000 ppm);TWA(8 hours):1000 ppm(1920 mg/m3)	
methyl acetate	79-20-9	Ireland OELs	TWA(8 hours):610 mg/m3(200 ppm);STEL(15 minutes):760 mg/m3(250 ppm)	

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.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
cyclohexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	2,016 mg/kg bw/d
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Local	700 mg/m³

			effects	
cyclohexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	700 mg/m³
cyclohexane		Worker	Inhalation, Short-term exposure, Local effects	700 mg/m³
cyclohexane		Worker	Inhalation, Short-term exposure, Systemic effects	700 mg/m³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
cyclohexane		Freshwater	0.207 mg/l
cyclohexane		Freshwater sediments	3.627 mg/kg d.w.
cyclohexane		Intermittent releases to water	0.207 mg/l
cyclohexane		Marine water	0.207 mg/l

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

8.2. Exposure controls

In addition, refer to the annex for more information.

8.2.1. Engineering controls
Do not remain in area where available oxygen may be reduced. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

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

Applicable Norms/Standards
Use gloves tested to EN 374

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 supplied-air respirator

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

8.2.3. Environmental exposure controls
Refer to Annex

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Aerosol
Colour	Colourless
Odor	Sweet Odour
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	*No data available.*
Flammability	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	-42 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*Not applicable.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*Not applicable.*
Water solubility	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	0.7 g/ml
Relative density	0.7 [*Ref Std:*WATER=1] [*Details:*G/cm3]
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.*
Percent volatile	85 - 95 %

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
Direct sunlight
Heat.
Sparks and/or flames.
Temperatures above 45 ºC (113 ºF)

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

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

Signs and Symptoms of Exposure

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

Inhalation
Simple asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. 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.

Eye contact
Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

May cause additional health effects (see below).

Additional Health Effects:

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 >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
dimethyl ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
methyl acetate	Dermal	Rat	LD50 > 2,000 mg/kg
methyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 > 49 mg/l
methyl acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
cyclohexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 32.9 mg/l
cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Ingestion	Rat	LD50 > 2,000 mg/kg
SBR stabilized	Dermal	Rabbit	LD50 > 2,000 mg/kg
SBR stabilized	Ingestion	Rat	LD50 > 5,000 mg/kg
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL)BENZENE	Dermal		LD50 estimated to be > 5,000 mg/kg
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL)BENZENE	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	Ingestion	Rat	LD50 > 10,000 mg/kg
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.4 mg/l
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	Dermal	similar compounds	LD50 > 2,200 mg/kg
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	Ingestion	similar compounds	LD50 > 15,000 mg/kg
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	Dermal	similar compounds	LD50 > 5,000 mg/kg
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	Ingestion	similar compoun	LD50 > 5,000 mg/kg

		ds	

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
methyl acetate	Rabbit	No significant irritation
cyclohexane	Rabbit	Mild irritant
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In vitro data	No significant irritation
SBR stabilized	Professional judgement	No significant irritation
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	similar compounds	Mild irritant
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	similar compounds	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
methyl acetate	Rabbit	Moderate irritant
cyclohexane	Rabbit	Mild irritant
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In vitro data	No significant irritation
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	similar compounds	No significant irritation
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	similar compounds	No significant irritation

Skin Sensitisation

Name	Species	Value
methyl acetate	Human	Not classified
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Multiple animal species	Not classified
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	similar compounds	Not classified
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	similar compounds	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
dimethyl ether	In Vitro	Not mutagenic
dimethyl ether	In vivo	Not mutagenic
methyl acetate	In Vitro	Not mutagenic
methyl acetate	In vivo	Not mutagenic
cyclohexane	In Vitro	Not mutagenic
cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification

2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	In Vitro	Not mutagenic
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	In Vitro	Not mutagenic
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
dimethyl ether	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
dimethyl ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis
cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
dimethyl ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
dimethyl ether	Inhalation	cardiac sensitisation	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
methyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
methyl acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
methyl acetate	Inhalation	blindness	Not classified		NOAEL Not available	
methyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
dimethyl ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
dimethyl ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks

methyl acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
methyl acetate	Inhalation	endocrine system | hematopoietic system | liver | immune system | kidney and/or bladder	Not classified	Rat	NOAEL 6.1 mg/l	28 days
cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	Ingestion	heart | gastrointestinal tract | hematopoietic system | liver | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 331 mg/kg/day	90 days

Aspiration Hazard

Name	Value
cyclohexane	Aspiration hazard
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	Aspiration hazard
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	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
dimethyl ether	115-10-6	Bacteria	Experimental	N/A	EC10	>1,600 mg/l
dimethyl ether	115-10-6	Guppy	Experimental	96 hours	LC50	>4,100 mg/l
dimethyl ether	115-10-6	Water flea	Experimental	48 hours	EC50	>4,400 mg/l
methyl acetate	79-20-9	Green algae	Experimental	72 hours	ErC50	>120 mg/l
methyl acetate	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l

methyl acetate	79-20-9	Zebra Fish	Experimental	96 hours	LC50	250 mg/l
methyl acetate	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
methyl acetate	79-20-9	Bacteria	Experimental	16 hours	EC50	6,000 mg/l
cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Water flea	Endpoint not reached	21 days	EL10	>100 mg/l
SBR stabilized	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	9017-27-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL) BENZENE	100199-62-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Green algae	Estimated	72 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Rainbow trout	Estimated	96 hours	LL50	>1,000 mg/l
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Water flea	Estimated	48 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Green algae	Estimated	72 hours	NOEL	1,000 mg/l
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Green algae	Analogous Compound	72 hours	EL50	>1,000 mg/l
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Water flea	Analogous Compound	48 hours	EL50	>1,000 mg/l
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Rainbow trout	Experimental	96 hours	LL50	>788,000 mg/l
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Scud	Experimental	96 hours	LL50	>10,000 mg/l

Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Green algae	Analogous Compound	72 hours	NOEL	1,000 mg/l
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Water flea	Analogous Compound	21 days	NOEL	>1 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
dimethyl ether	115-10-6	Experimental Biodegradation	28 days	BOD	5 %BOD/ThOD	OECD 301D - Closed bottle test
dimethyl ether	115-10-6	Experimental Photolysis		Photolytic half-life (in air)	12.4 days (t 1/2)	
methyl acetate	79-20-9	Experimental Biodegradation	28 days	BOD	70 %BOD/ThOD	OECD 301D - Closed bottle test
methyl acetate	79-20-9	Experimental Aquatic Inherent Biodegrad.	6 days	Dissolv. Organic Carbon Deplet	>95 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
methyl acetate	79-20-9	Experimental Photolysis		Photolytic half-life (in air)	94 days (t 1/2)	
methyl acetate	79-20-9	Experimental Hydrolysis		Hydrolytic half-life	44 days (t 1/2)	
cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry
cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.3 days (t 1/2)	
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane	31393-98-3	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
SBR stabilized	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	9017-27-0	Modeled Biodegradation	28 days	BOD	1 %BOD/ThOD	Catalogic™
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL)BENZENE	100199-62-0	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Estimated Biodegradation	28 days	BOD	31.3 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Experimental Biodegradation	28 days	BOD	22 %BOD/ThOD	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
dimethyl ether	115-10-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
methyl acetate	79-20-9	Experimental Bioconcentration		Log Kow	0.18	
cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
cyclohexane	110-82-7	Experimental Bioconcentration		Log Kow	3.44	
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-	31393-98-3	Experimental Bioconcentration		Log Kow	7.41	

methylenebicyclo[3.1.1]heptane						
SBR stabilized	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
ALPHA-METHYLSTYRENE-VINYLTOLUENE COPOLYMER	9017-27-0	Modeled Bioconcentration		Bioaccumulation factor	<=79	Catalogic™
BENZENE, 1-ETHENYL-4-METHYL-, POLYMER WITH (1-METHYLETHENYL)BENZENE	100199-62-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C11-C13, isoalkanes, <2% aromatics	920-901-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C12-C16, isoalkanes, cyclics, <2% aromatics	927-676-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
dimethyl ether	115-10-6	Modeled Mobility in Soil	Koc	3 l/kg	Episuite™
methyl acetate	79-20-9	Experimental Mobility in Soil	Koc	1.5 l/kg	OECD 121 Estim. of Koc by HPLC
cyclohexane	110-82-7	Modeled Mobility in Soil	Koc	970 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. 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
16 05 04* Gases in pressure containers (including halons) containing dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

EU waste code (product container after use)

15 01 04 Metallic packaging

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN1950	UN1950	UN1950
14.2 UN proper shipping name	AEROSOLS	AEROSOLS, FLAMMABLE	AEROSOLS
14.3 Transport hazard class(es)	2.1	2.1	2.1
14.4 Packing group	Not applicable.	Not applicable.	Not applicable.
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	5F	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
SBR stabilized	Trade Secret	Gr. 3: Not classifiable	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:
The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

Ingredient	CAS Nbr
cyclohexane	110-82-7

Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

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
E2 Hazardous to the Aquatic environment	200	500
P3a FLAMMABLE AEROSOLS	150 (net)	500 (net)

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

EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: may burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.

H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Revision information:
Section 1: Product use information information was modified.
CLP: Ingredient table information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 9: Flash point information information was modified.
Section 09: Odor information was modified.
Section 09: Particle Characteristics N/A information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was modified.
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 - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 15: Seveso Substance Text information was deleted.

Annex

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Industrial Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of exposure per day at workplace [for one worker]: 8 hours/day; Emission days per year: 100 days per year; Indoor use; Outdoor use;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:**

	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour); Provide extract ventilation to points where emissions occur; **Environmental:** None needed;
Waste management measures	Avoid release to the environment. Refer to special instructions / safety data sheet.; Do not apply industrial sludge to natural soils; Do not release to waterways or sewers; Prevent discharge of undissolved substance to or recover from wastewater;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	cyclohexane; EC No. 203-806-2; CAS Nbr 110-82-7;
Exposure Scenario Name	Professional Use of Adhesives
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Application of product.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of exposure per day at workplace [for one worker]: 8 hours/day; Emission days per year: 365 days per year; Indoor use; Outdoor use;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Ventilated Process Enclosures; **Environmental:** None needed;
Waste management measures	Avoid release to the environment. Refer to special instructions / safety data sheet.;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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volume tracking, and potential substance registration.

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