



## 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™ Super77 Spray Adhesive

#### Product Identification Numbers

YP-2080-6120-7

7000116782

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

##### Identified uses

Aerosol Adhesive

#### 1.3. Details of the supplier of the safety data sheet

**Address:** 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.  
**Telephone:** +353 1 280 3555  
**E Mail:** tox.uk@mmm.com  
**Website:** www.3M.com

#### 1.4. Emergency telephone number

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

### SECTION 2: Hazard identification

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

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

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  
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
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		927-510-4	< 15
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		931-254-9	< 10

**HAZARD STATEMENTS:**

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H315	Causes skin 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.
P261A	Avoid breathing vapours.
P273	Avoid release to the environment.

**Storage:**

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

<b>Ingredient</b>	<b>Identifier(s)</b>	<b>%</b>	<b>Classification according to Regulation (EC) No. 1272/2008 [CLP]</b>
propane	(CAS-No.) 74-98-6 (EC-No.) 200-827-9 (REACH-No.) 01-2119486944-21	< 15	Flam. Gas 1A, H220 Liquified gas, H280 Nota U
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	(EC-No.) 927-510-4 (REACH-No.) 01-2119475515-33	< 15	Aquatic Chronic 2, H411 Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336
dimethyl ether	(CAS-No.) 115-10-6 (EC-No.) 204-065-8	< 12	Flam. Gas 1A, H220 Liquified gas, H280 Nota U
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	< 10	Aquatic Chronic 4, H413
Butadiene Copolymer	Trade Secret	< 10	Substance not classified as hazardous
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	(EC-No.) 931-254-9 (REACH-No.) 01-2119484651-34	< 10	Aquatic Chronic 2, H411 Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336
pentane	(CAS-No.) 109-66-0 (EC-No.) 203-692-4 (REACH-No.) 01-2119459286-30	< 10	Flam. Liq. 2, H225 Asp. Tox. 1, H304 STOT SE 3, H336 EUH066 Aquatic Chronic 2, H411 Nota C
Thermoplastic resin	Trade Secret	< 7	Substance with a national occupational exposure limit
butane	(CAS-No.) 106-97-8 (EC-No.) 203-448-7 (REACH-No.) 01-2119474691-32	< 7	Flam. Gas 1A, H220 Liquified gas, H280 Nota C,U
isobutane	(CAS-No.) 75-28-5 (EC-No.) 200-857-2 (REACH-No.) 01-2119485395-27	< 5	Flam. Gas 1A, H220 Liquified gas, H280 Nota C,U
isopentane	(CAS-No.) 78-78-4 (EC-No.) 201-142-8	< 3	Flam. Liq. 1, H224 Asp. Tox. 1, H304 STOT SE 3, H336 EUH066 Aquatic Chronic 2, H411

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. 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

If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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). 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

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

## 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

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
formaldehyde	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Ketones.	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.

## 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. 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**

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. 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.

**6.4. Reference to other sections**

Refer to Section 8 and Section 13 for more information

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. 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.) Use personal protective equipment (eg. gloves, respirators...) as required.

**7.2. Conditions for safe storage including any incompatibilities**

Keep container tightly closed to prevent loss of stabilizing materials. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Protect from sunlight. Store in a well-ventilated place. 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.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
butane	106-97-8	Ireland OELs	STEL(15 minutes):1000 ppm	
pentane	109-66-0	Ireland OELs	TWA(8 hours):3000 mg/m3(1000 ppm);TWA(8 hours):1000 ppm(3000 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)	
isobutane	75-28-5	Ireland OELs	STEL(15 minutes):1000 ppm	

isopentane	78-78-4	Ireland OELs	TWA(8 hours):3000 mg/m <sup>3</sup> (1000 ppm);TWA(8 hours):1000 ppm(3000 mg/m <sup>3</sup> )	
Thermoplastic resin	Trade Secret	Ireland OELs	TWA(8 hours):0.05 mg/m <sup>3</sup> ;STEL(15 minutes):0.15 mg/m <sup>3</sup>	AIR, total respirable

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
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	13,964 mg/kg bw/d
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	5,306 mg/m <sup>3</sup>
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	13,964 mg/kg bw/d
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	5,306 mg/m <sup>3</sup>
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	300 mg/kg bw/d
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	2,085 mg/m <sup>3</sup>
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	300 mg/kg bw/d
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	2,085 mg/m <sup>3</sup>
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	300 mg/kg bw/d
Hydrocarbons, C6, isoalkanes, < 5% n-hexane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	2,085 mg/m <sup>3</sup>
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	300 mg/kg bw/d
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	2,085 mg/m <sup>3</sup>

**Predicted no effect concentrations (PNEC)**

Ingredient	Degradation	Compartment	PNEC
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	<b>Product</b>		
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		Agricultural soil	0.53 mg/kg d.w.
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		Freshwater	0.096 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		Freshwater sediments	2.5 mg/kg d.w.
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		Marine water	0.096 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n- hexane		Marine water sediments	2.5 mg/kg d.w.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Agricultural soil	0.53 mg/kg d.w.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Freshwater	0.096 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Freshwater sediments	2.5 mg/kg d.w.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Marine water	0.096 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics		Marine water sediments	2.5 mg/kg d.w.

**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:

<b>Material</b>	<b>Thickness (mm)</b>	<b>Breakthrough Time</b>
Polymer laminate	>.3	=>8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

*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 air-purifying respirator suitable for organic vapours

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

Use a respirator conforming to EN 140 or EN 136: filter type A

### 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 Odor
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>Not applicable.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Flash point	-42 °C [ <i>Test Method:</i> Closed Cup] [ <i>Details:</i> Aerosol Adhesive]
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>Not applicable.</i>
pH	<i>substance/mixture is non-polar/aprotic</i>
Kinematic Viscosity	<i>Not applicable.</i>
Water solubility	<i>No data available.</i>
Solubility- non-water	<i>Not applicable.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	<i>Not applicable.</i>
Density	<=0.7 g/ml
Relative density	approximately 0.7 N/A [ <i>Ref Std:</i> WATER=1] [ <i>Details:</i> G/cm3]
Relative Vapour Density	<i>No data available.</i>

### 9.2. Other information

#### 9.2.2 Other safety characteristics

EU Volatile Organic Compounds

*No data available.*



**Evaporation rate**  
**Percent volatile**

*No data available.*  
approximately 75 %

## 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 acids.  
Strong oxidising agents.

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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**

Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.

#### **Eye contact**

Contact with the eyes during product use is not expected to result in significant irritation.

#### **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. Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

##### Prolonged or repeated exposure may cause target organ effects:

Peripheral neuropathy: Signs/symptoms may include tingling or numbness of the extremities, incoordination, weakness of the hands and feet, tremors and muscle atrophy.

#### 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
propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rabbit	LD50 > 2,920 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rabbit	LD50 > 3,160 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rabbit	LD50 > 3,160 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Dermal	Rat	LD50 > 2,000 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation-Vapour (4 hours)	Rat	LC50 > 14.7 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation-Vapour (4 hours)	Rat	LC50 > 23.3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.61 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	Rat	LD50 > 5,000 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	Rat	LD50 > 5,840 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	Rat	LD50 > 5,000 mg/kg
pentane	Dermal	Rabbit	LD50 3,000 mg/kg
pentane	Inhalation-Vapour (4 hours)	Rat	LC50 > 18 mg/l
pentane	Ingestion	Rat	LD50 > 2,000 mg/kg
dimethyl ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Butadiene Copolymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butadiene Copolymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Dermal	Rabbit	LD50 > 2,920 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Dermal	Rabbit	LD50 > 3,160 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Dermal	Rabbit	LD50 > 3,160 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Dermal	Rat	LD50 > 2,000 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation-Vapour (4	Rat	LC50 > 14.7 mg/l

	hours)		
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 23.3 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 5.61 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Ingestion	Rat	LD50 > 5,000 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Ingestion	Rat	LD50 > 5,840 mg/kg
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Ingestion	Rat	LD50 > 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	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
Thermoplastic resin	Dermal	Rat	LD50 > 2,000 mg/kg
Thermoplastic resin	Ingestion	Rat	LD50 > 2,000 mg/kg
butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm
isopentane	Dermal	Rabbit	LD50 3,000 mg/kg
isopentane	Inhalation-Vapour (4 hours)	Rat	LC50 > 18 mg/l
isopentane	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
propane	Rabbit	Minimal irritation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	Irritant
pentane	Rabbit	Minimal irritation
Butadiene Copolymer	Professional judgement	Minimal irritation
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Rabbit	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
Thermoplastic resin	Rabbit	No significant irritation
butane	Professional judgement	No significant irritation
isobutane	Professional judgement	No significant irritation
isopentane	Rabbit	Minimal irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
propane	Rabbit	Mild irritant
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	No significant irritation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Rabbit	Mild irritant
pentane	Rabbit	Mild irritant
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Rabbit	No significant irritation
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Rabbit	Mild irritant
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer with 6,6-dimethyl-2-	In vitro	No significant irritation

methylenebicyclo[3.1.1]heptane	data	
Thermoplastic resin	Rabbit	Mild irritant
butane	Rabbit	No significant irritation
isobutane	Professional judgement	No significant irritation
isopentane	Rabbit	Mild irritant

### Skin Sensitisation

Name	Species	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Guinea pig	Not classified
pentane	Guinea pig	Not classified
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Guinea pig	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
Thermoplastic resin	Human and animal	Not classified
isopentane	Guinea pig	Not classified

### Respiratory Sensitisation

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

### Germ Cell Mutagenicity

Name	Route	Value
propane	In Vitro	Not mutagenic
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	In Vitro	Not mutagenic
pentane	In vivo	Not mutagenic
pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
dimethyl ether	In Vitro	Not mutagenic
dimethyl ether	In vivo	Not mutagenic
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	In Vitro	Not mutagenic
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
butane	In Vitro	Not mutagenic
isobutane	In Vitro	Not mutagenic
isopentane	In vivo	Not mutagenic
isopentane	In Vitro	Some positive data exist, but the data are not sufficient for classification

### Carcinogenicity

Name	Route	Species	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
dimethyl ether	Inhalation	Rat	Not carcinogenic
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation	Mouse	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
Hydrocarbons, C7, n-alkanes, isoalkanes,	Not	Not classified for female reproduction	Rat	NOAEL Not	2 generation

cyclics	specified.			available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not specified.	Not classified for development	Rat	NOAEL Not available	2 generation
pentane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
pentane	Inhalation	Not classified for development	Rat	NOAEL 30 mg/l	during organogenesis
dimethyl ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	2 generation
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	Not specified.	Not classified for development	Rat	NOAEL Not available	2 generation
isopentane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
isopentane	Inhalation	Not classified for development	Rat	NOAEL 30 mg/l	during organogenesis

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
propane	Inhalation	cardiac sensitisation	Causes damage to organs	Human	NOAEL Not available	
propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
pentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
pentane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
pentane	Inhalation	cardiac sensitisation	Not classified	Dog	NOAEL Not available	not available
pentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	not available
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	Dog	NOAEL 100,000 ppm	5 minutes

			classification			
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
butane	Inhalation	cardiac sensitisation	Causes damage to organs	Human	NOAEL Not available	
butane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
butane	Inhalation	heart	Not classified	Dog	NOAEL 5,000 ppm	25 minutes
butane	Inhalation	respiratory irritation	Not classified	Rabbit	NOAEL Not available	
isobutane	Inhalation	cardiac sensitisation	Causes damage to organs	Multiple animal species	NOAEL Not available	
isobutane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
isobutane	Inhalation	respiratory irritation	Not classified	Mouse	NOAEL Not available	
isopentane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
isopentane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
isopentane	Inhalation	cardiac sensitisation	Not classified	Dog	NOAEL Not available	not available
isopentane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	not available

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
pentane	Inhalation	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
pentane	Inhalation	heart   skin   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   hematopoietic system   liver   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 20 mg/l	13 weeks
pentane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days

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
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
butane	Inhalation	kidney and/or bladder   blood	Not classified	Rat	NOAEL 4,489 ppm	90 days
isobutane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,500 ppm	13 weeks
isopentane	Inhalation	peripheral nervous system	Not classified	Human	NOAEL Not available	occupational exposure
isopentane	Inhalation	heart   skin   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   hematopoietic system   liver   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 20 mg/l	13 weeks
isopentane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days

**Aspiration Hazard**

Name	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Aspiration hazard
pentane	Aspiration hazard
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	Aspiration hazard
isopentane	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
Hydrocarbons, C7, n-alkanes, isoalkanes,	927-510-4	Green algae	Analogous Compound	72 hours	EL50	29 mg/l

cyclics						
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Medaka	Analogous Compound	96 hours	LC50	0.561 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Analogous Compound	48 hours	EC50	0.4 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Fathead minnow	Estimated	96 hours	LL50	8.2 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	EL50	3.1 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	EL50	29 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	EL50	55 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	48 hours	EL50	3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	48 hours	EL50	4.5 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	48 hours	LC50	3.9 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Rainbow trout	Experimental	96 hours	LL50	>13.4 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Analogous Compound	72 hours	NOEL	6.3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Analogous Compound	21 days	NOEC	0.17 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	NOEL	0.5 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	NOEL	6.3 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Green algae	Estimated	72 hours	NOEL	30 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	21 days	NOEL	1 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Water flea	Estimated	21 days	NOEL	2.6 mg/l
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Activated sludge	Analogous Compound	15 hours	IC50	29 mg/l
propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
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
2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene, polymer	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l



with 6,6-dimethyl-2-methylenebicyclo[3.1.1]heptane						
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
Butadiene Copolymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Analogous Compound	72 hours	EL50	29 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Medaka	Analogous Compound	96 hours	LC50	0.561 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Analogous Compound	48 hours	EC50	0.4 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Fathead minnow	Estimated	96 hours	LL50	8.2 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	EL50	3.1 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	EL50	29 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	EL50	55 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Estimated	48 hours	EL50	3 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Estimated	48 hours	EL50	4.5 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Estimated	48 hours	LC50	3.9 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Rainbow trout	Experimental	96 hours	LL50	>13.4 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Analogous Compound	72 hours	NOEL	6.3 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Analogous Compound	21 days	NOEC	0.17 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	NOEL	0.5 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	NOEL	6.3 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Green algae	Estimated	72 hours	NOEL	30 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Estimated	21 days	NOEL	1 mg/l

hexane						
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Water flea	Estimated	21 days	NOEL	2.6 mg/l
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Activated sludge	Analogous Compound	15 hours	IC50	29 mg/l
pentane	109-66-0	Green algae	Experimental	72 hours	EC50	10.7 mg/l
pentane	109-66-0	Rainbow trout	Experimental	96 hours	LC50	4.26 mg/l
pentane	109-66-0	Water flea	Experimental	48 hours	EC50	2.7 mg/l
pentane	109-66-0	Green algae	Experimental	72 hours	NOEC	2.04 mg/l
butane	106-97-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Thermoplastic resin	Trade Secret	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Thermoplastic resin	Trade Secret	Rainbow trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l
Thermoplastic resin	Trade Secret	Water flea	Estimated	48 hours	No tox obs at lmt of water sol	>100 mg/l
Thermoplastic resin	Trade Secret	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
isobutane	75-28-5	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
isopentane	78-78-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

## 12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound Biodegradation	28 days	BOD	74.4 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Estimated Biodegradation	28 days	BOD	98 %BOD/CO D	OECD 301F - Manometric respirometry
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Estimated Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Estimated Biodegradation	28 days	BOD	98 %BOD/CO D	OECD 301F - Manometric respirometry
propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	
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)	
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
Butadiene Copolymer	Trade Secret	Data not available or insufficient	N/A	N/A	N/A	N/A
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Analogous Compound Biodegradation	28 days	BOD	74.4 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C6, isoalkanes, < 5% n-hexane	931-254-9	Estimated Biodegradation	28 days	BOD	98 %BOD/CO D	OECD 301F - Manometric respirometry
Hydrocarbons, C6,	931-254-9	Estimated	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric

isoalkanes, < 5% n- hexane		Biodegradation			D	respirometry
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Estimated Biodegradation	28 days	BOD	98 %BOD/CO D	OECD 301F - Manometric respirometry
pentane	109-66-0	Experimental Biodegradation	28 days	BOD	87 %BOD/ThO D	OECD 301F - Manometric respirometry
pentane	109-66-0	Experimental Photolysis		Photolytic half-life (in air)	8.07 days (t 1/2)	
butane	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	12.3 days (t 1/2)	
Thermoplastic resin	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	47.3 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
isobutane	75-28-5	Experimental Photolysis		Photolytic half-life (in air)	13.4 days (t 1/2)	
isopentane	78-78-4	Experimental Biodegradation	28 days	BOD	71.43 %BOD/ThOD	
isopentane	78-78-4	Experimental Photolysis		Photolytic half-life (in air)	8.11 days (t 1/2)	

**12.3 : Bioaccumulative potential**

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Hydrocarbons, C7, n- alkanes, isoalkanes, cyclics	927-510-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C7, n- alkanes, isoalkanes, cyclics	927-510-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C7, n- alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	540	OECD305-Bioconcentration
Hydrocarbons, C7, n- alkanes, isoalkanes, cyclics	927-510-4	Analogous Compound Bioconcentration		Log Kow	4.66	
Hydrocarbons, C7, n- alkanes, isoalkanes, cyclics	927-510-4	Estimated Bioconcentration		Log Kow	3.6	
propane	74-98-6	Experimental Bioconcentration		Log Kow	2.36	
dimethyl ether	115-10-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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 Bioconcentration		Log Kow	7.41	
Butadiene Copolymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	540	OECD305-Bioconcentration
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Analogous Compound Bioconcentration		Log Kow	4.66	
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Estimated Bioconcentration		Log Kow	3.6	
pentane	109-66-0	Estimated Bioconcentration		Bioaccumulation factor	26	

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butane	106-97-8	Experimental Bioconcentration		Log Kow	2.89	
Thermoplastic resin	Trade Secret	Estimated Bioconcentration		Bioaccumulation factor	7.4	
isobutane	75-28-5	Experimental Bioconcentration		Log Kow	2.76	
isopentane	78-78-4	Experimental Bioconcentration		Log Kow	2.3	

**12.4. Mobility in soil**

Material	Cas No.	Test type	Study Type	Test result	Protocol
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	927-510-4	Modeled Mobility in Soil	Koc	≥202 l/kg	Episuite™
dimethyl ether	115-10-6	Modeled Mobility in Soil	Koc	3 l/kg	Episuite™
Hydrocarbons, C6, isoalkanes, < 5% n- hexane	931-254-9	Modeled Mobility in Soil	Koc	≥202 l/kg	Episuite™
pentane	109-66-0	Estimated Mobility in Soil	Koc	72 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.

Incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

**EU waste code (product as sold)**

- 08 04 09\* Waste adhesives and sealants containing organic solvents or other dangerous substances
- 16 05 04\* Gases in pressure containers (including halons) containing dangerous substances

**EU waste code (product container after use)**

- 15 01 04 Metallic packaging

**SECTION 14: Transportation information**

	<b>Ground Transport (ADR)</b>	<b>Air Transport (IATA)</b>	<b>Marine Transport (IMDG)</b>
<b>14.1 UN number or ID number</b>	UN1950	UN1950	UN1950
<b>14.2 UN proper shipping name</b>	AEROSOLS	AEROSOLS, FLAMMABLE	AEROSOLS
<b>14.3 Transport hazard class(es)</b>	2.1	2.1	2.1
<b>14.4 Packing group</b>	Not applicable.	Not applicable.	Not applicable.
<b>14.5 Environmental hazards</b>	Not Environmentally Hazardous	Not applicable	Not a Marine Pollutant
<b>14.6 Special precautions for user</b>	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.
<b>14.7 Marine Transport in bulk according to IMO instruments</b>	No data available.	No data available.	No data available.
<b>Control Temperature</b>	No data available.	No data available.	No data available.
<b>Emergency Temperature</b>	No data available.	No data available.	No data available.
<b>ADR Classification Code</b>	5F	Not applicable.	Not applicable.
<b>IMDG Segregation Code</b>	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**

#### **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

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
butane	106-97-8	10	50
dimethyl ether	115-10-6	10	50
isobutane	75-28-5	10	50
isopentane	78-78-4	10	50
pentane	109-66-0	10	50
propane	74-98-6	10	50

**Regulation (EU) No 649/2012**

No chemicals listed

**15.2. Chemical Safety Assessment**

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

**SECTION 16: Other information**

**List of relevant H statements**

EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H224	Extremely flammable liquid and vapour.
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.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

**Revision information:**

Industrial Use of Adhesives and Sealants: Section 16: Annex information was modified.

Professional Use of Adhesives: Section 16: Annex information was modified.

CLP: Ingredient table information was modified.

Label: CLP Percent Unknown information was deleted.

Label: CLP Precautionary - Prevention information was modified.

Section 3 and Section 9: General physical form information information was modified.

Section 3: Composition/ Information of ingredients table information was modified.

Section 4: First aid for eye contact information information was modified.

Section 6: Accidental release clean-up information information was modified.  
 Section 6: Accidental release environmental information information was modified.  
 Section 7: Conditions safe storage information was modified.  
 Section 8: DNEL table row information was modified.  
 Section 8: Eye/face protection information information was modified.  
 Section 8: Occupational exposure limit table information was modified.  
 Section 8: PNEC table row information was modified.  
 Section 8: Respiratory protection - recommended respirators information information was modified.  
 Section 9: Flammability (solid, gas) information information was added.  
 Section 9: Flammability (solid, gas) information information was deleted.  
 Section 9: Flash point information information was modified.  
 Section 9: Vapour density value information was modified.  
 Section 11: Acute Toxicity table information was modified.  
 Section 11: Aspiration Hazard Table information was modified.  
 Section 11: Germ Cell Mutagenicity Table information was modified.  
 Section 11: Health Effects - Inhalation information information was modified.  
 Section 11: Reproductive Toxicity Table information was modified.  
 Section 11: Reproductive/developmental effects information information was deleted.  
 Section 11: Serious Eye Damage/Irritation Table information was modified.  
 Section 11: Skin Corrosion/Irritation 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: Mobility in soil information information was modified.  
 Section 12: Persistence and Degradability information information was modified.  
 Section 12: Biocumulative potential information information was modified.  
 Section 13: Standard Phrase Category Waste GHS information was modified.  
 Section 15: Restrictions on manufacture ingredients information information was deleted.  
 Section 15: Seveso Hazard Category Text information was added.  
 Section 15: Seveso Substance Text information was modified.  
 Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

## Annex

<b>1. Title</b>	
<b>Substance identification</b>	
<b>Exposure Scenario Name</b>	Industrial Use of Adhesives and Sealants
<b>Lifecycle Stage</b>	Use at industrial sites
<b>Contributing activities</b>	PROC 07 -Industrial spraying ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<b>Processes, tasks and activities covered</b>	Application of product.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> 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;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b>

	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; <b>Environmental:</b> None needed;
<b>Waste management measures</b>	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;
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

<b>1. Title</b>	
<b>Substance identification</b>	Hydrocarbons, C6, isoalkanes, < 5% n- hexane; EC No. 931-254-9; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics; EC No. 927-510-4;
<b>Exposure Scenario Name</b>	Industrial Use of Coatings
<b>Lifecycle Stage</b>	Use at industrial sites
<b>Contributing activities</b>	PROC 07 -Industrial spraying ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<b>Processes, tasks and activities covered</b>	Application of product. Spraying of substances/mixtures.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> 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: <= 20 days per year; Indoor use; Outdoor use;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b> None needed; <b>Environmental:</b> None needed;
<b>Waste management measures</b>	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

<b>1. Title</b>	
<b>Substance identification</b>	
<b>Exposure Scenario Name</b>	Professional Use of Adhesives
<b>Lifecycle Stage</b>	Widespread use by professional workers
<b>Contributing activities</b>	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)
<b>Processes, tasks and activities covered</b>	Application of product.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> 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;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b> Ventilated Process Enclosures; <b>Environmental:</b> None needed;
<b>Waste management measures</b>	Avoid release to the environment. Refer to special instructions / safety data sheet.;
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

<b>1. Title</b>	
<b>Substance identification</b>	Hydrocarbons, C6, isoalkanes, < 5% n- hexane; EC No. 931-254-9; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics; EC No. 927-510-4;
<b>Exposure Scenario Name</b>	Professional Use of Coatings
<b>Lifecycle Stage</b>	Widespread use by professional workers
<b>Contributing activities</b>	PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
<b>Processes, tasks and activities covered</b>	Application of product. Spraying of substances/mixtures.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> 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/year; Indoor use; Outdoor use;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b> None needed; <b>Environmental:</b> None needed;
<b>Waste management measures</b>	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions;
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	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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