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 Scotch-Weld Spray 77 Multipurpose Adhesive

Product identification numbers
YP-2080-6119-9 YP-2080-6163-7

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 substance or mixture
Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

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

CLASSIFICATION:
Flammable Aerosol, Category 1 - Flam. Aerosol 1; H222
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.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger

Extremely flammable; F+; R12
Irritant; Xi; R38
R67
Dangerous for the environment; N; R51/53

For full text of R 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

Ingredient	CAS Nbr	% by Wt
Cyclohexane	110-82-7	7 - 13

HAZARD STATEMENTS:

H222	Extremely flammable aerosol.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS
General:

P102	Keep out of reach of children.
P101	If medical advice is needed, have product container or label at hand.

Prevention:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.

Response:

P332 + P313	If skin irritation occurs: Get medical advice/attention.
P331	Do NOT induce vomiting.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SUPPLEMENTAL INFORMATION

Supplemental Precautionary Statements:
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 degrees C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

14% of the mixture consists of components of unknown acute oral toxicity.

Contains 43% of components with unknown hazards to the aquatic environment.

Notes on labelling
H304 is not required on the label because the product is an aerosol.
Nota P applied to CASRNs 92045-53-9 and 64742-49-0

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)


Extremely Flammable


Irritant


Dangerous for the environment

Contains:

No ingredients are assigned to the label.

Risk phrases

R12	Extremely flammable.
R38	Irritating to skin.
R67	Vapours may cause drowsiness and dizziness.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S16	Keep away from sources of ignition - No Smoking.
S23C	Do not breathe vapour or spray.
S51	Use only in well ventilated areas.
S24	Avoid contact with skin.
S46	If swallowed, seek medical advice immediately and show this container or label.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.
S2	Keep out of the reach of children.

Special provisions concerning the labelling of certain substances

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Notes on labelling
R65 is not required on the label because the product is an aerosol.

Nota P applied to CASRNs 92045-53-9 and 64742-49-0

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Propane	74-98-6	EINECS 200-827-9	10 - 20	F+:R12 (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota U (CLP)
Cyclohexane	110-82-7	EINECS 203-806-2	7 - 13	F:R11; Xn:R65; Xi:R38; N:R50/53; R67 - Nota 4 (EU) 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 (CLP)
Dimethyl Ether	115-10-6	EINECS 204-065-8	7 - 13	F+:R12 (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota U (CLP)
Pentane	109-66-0	EINECS 203-692-4	5 - 10	F+:R12; Xn:R65; N:R51/53; R66; R67 - Nota 4,C (EU) Flam. Liq. 2, H225; Asp. Tox. 1, H304; STOT SE 3, H336; EUH066; Aquatic Chronic 2, H411 - Nota C (CLP)
Butane	106-97-8	EINECS 203-448-7	3 - 7	F+:R12 - Nota C (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota C,U (CLP)
Isobutane	75-28-5	EINECS 200-857-2	1 - 5	F+:R12 - Nota C (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota C,U (CLP)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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
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
See Section 11.1 Information on toxicological effects

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
In case of fire: Use a fire fighting agent suitable for flammable liquids and solids such as dry chemical or carbon dioxide to extinguish.

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

Hazardous Decomposition or By-Products

Substance	Condition
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.

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. Close cylinder. Contain spill. 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 toxic, corrosivity or flammability 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 or areas with little or no air movement. 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 release to the environment. 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
Store in a well-ventilated place. Keep container tightly closed to prevent loss of stabilizing materials. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. 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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Butane	106-97-8	Health and Safety Comm. (UK)	TWA:1450 mg/m³(600 ppm);STEL:1810 mg/m³(750 ppm)	
Pentane	109-66-0	Health and Safety Comm. (UK)	TWA:1800 mg/m³(600 ppm)	
Cyclohexane	110-82-7	Health and Safety Comm. (UK)	TWA:350 mg/m³(100 ppm);STEL:1050 mg/m³(300 ppm)	
Dimethyl Ether	115-10-6	Health and Safety Comm. (UK)	TWA:766 mg/m³(400 ppm);STEL:958 mg/m³(500 ppm)	
Propane	74-98-6	Health and Safety Comm. (UK)	Limit value not established:	asphyxiant

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

Do not remain in area where available oxygen may be reduced.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection.
The following eye protection(s) are recommended: Indirect vented goggles.

Skin/hand protection

Wear protective gloves and protective clothing.
Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment.
Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.
Gloves made from the following material(s) are recommended: Nitrile rubber.

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

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Gas.
Specific Physical Form:	Aerosol
Appearance/Odour	Sweet odour; clear
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Melting point	*Not applicable.*
Flammability (solid, gas)	Flammable Aerosol: Category 1.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	-42 ºC [*Details:*Aerosol Adhesive]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*Not applicable.*
Relative density	± 0.7 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*Not applicable.*
Viscosity	*Not applicable.*
Density	0.7 g/ml

9.2. Other information

Volatile organic compounds (VOC)	523 g/l [*Details:*EU Definition]
Percent volatile	± 75 %
VOC less H2O & exempt solvents	*No data available.*

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

Substance	Condition
None known.	

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Intentional concentration and inhalation may be harmful or fatal. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause target organ effects after inhalation.

Skin contact
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

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 target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:
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 sensitisation: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE >5,000 mg/kg
Propane	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
Pentane	Dermal	Rabbit	LD50 3,000 mg/kg
Pentane	Inhalation-Vapor (4 hours)	Rat	LC50 > 18 mg/l
Pentane	Ingestion	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Dimethyl Ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
Isobutane	Inhalation-Gas (4 hours)	Rat	LC50 276,000 ppm

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane	Rabbit	Minimal irritation
Pentane	Rabbit	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Dimethyl Ether		Data not available or insufficient for classification
Butane		No significant irritation
Isobutane		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Propane	Rabbit	Mild irritant
Pentane	Rabbit	Mild irritant
Cyclohexane	Rabbit	Mild irritant
Dimethyl Ether		Data not available or insufficient for classification

Butane	Rabbit	No significant irritation
Isobutane		No significant irritation

Skin Sensitisation

Name	Species	Value
Propane		Data not available or insufficient for classification
Pentane	Guinea pig	Not sensitizing
Cyclohexane		Data not available or insufficient for classification
Dimethyl Ether		Data not available or insufficient for classification
Butane		Data not available or insufficient for classification
Isobutane		Data not available or insufficient for classification

Respiratory Sensitisation

Name	Species	Value
Propane		Data not available or insufficient for classification
Pentane		Data not available or insufficient for classification
Cyclohexane		Data not available or insufficient for classification
Dimethyl Ether		Data not available or insufficient for classification
Butane		Data not available or insufficient for classification
Isobutane		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Propane	In Vitro	Not mutagenic
Pentane	In vivo	Not mutagenic
Pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Butane	In Vitro	Not mutagenic
Isobutane	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Propane			Data not available or insufficient for classification
Pentane			Data not available or insufficient for classification
Cyclohexane			Data not available or insufficient for classification
Dimethyl Ether	Inhalation	Rat	Not carcinogenic
Butane			Data not available or insufficient for classification
Isobutane			Data not available or insufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Propane		Data not available or insufficient for classification			
Pentane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 20 mg/l	13 weeks
Pentane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 20 mg/l	13 weeks
Pentane	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
Pentane	Inhalation	Not toxic to development	Rat	NOAEL 30 mg/l	during organogenesis
Cyclohexane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
Dimethyl Ether	Inhalation	Not toxic to female reproduction	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	Not toxic to male reproduction	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	Not toxic to development	Rat	NOAEL 40,000 ppm	during organogenesis
Butane		Data not available or insufficient for classification			
Isobutane		Data not available or insufficient for classification			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Propane	Inhalation	cardiac sensitization	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	All data are negative	Human	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	Some positive	Dog	NOAEL Not	not available

		sensitization	data exist, but the data are not sufficient for classification		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	
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Butane	Inhalation	cardiac sensitization	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	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 5,000 ppm	25 minutes
Butane	Inhalation	respiratory irritation	All data are negative	Rabbit	NOAEL Not available	
Isobutane	Inhalation	cardiac sensitization	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	All data are negative	Mouse	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Propane			Data not available or insufficient for classification			
Pentane	Inhalation	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Pentane	Inhalation	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system |	All data are negative	Rat	NOAEL 20 mg/l	13 weeks

		eyes | kidney and/or bladder | respiratory system				
Pentane	Ingestion	kidney and/or bladder	All data are negative	Rat	NOAEL 2,000 mg/kg/day	28 days
Cyclohexane	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Dimethyl Ether	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20,000 ppm	30 weeks
Butane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,489 ppm	90 days
Butane	Inhalation	blood	All data are negative	Rat	NOAEL 4,489 ppm	90 days
Isobutane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,500 ppm	13 weeks

Aspiration Hazard

Name	Value
Propane	Not an aspiration hazard
Pentane	Aspiration hazard
Cyclohexane	Aspiration hazard
Dimethyl Ether	Not an aspiration hazard
Butane	Not an aspiration hazard
Isobutane	Not an aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

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

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Butane	106-97-8		Data not available or insufficient for classification			
Cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
Cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
Cyclohexane	110-82-7	Green Algae	Experimental	72 hours	EC50	3.4 mg/l
Isobutane	75-28-5		Data not available or insufficient for classification			
Pentane	109-66-0	Green Algae	Experimental	72 hours	EC50	7.51 mg/l
Pentane	109-66-0	Water flea	Experimental	48 hours	EC50	2.7 mg/l
Pentane	109-66-0	Rainbow trout	Experimental	96 hours	LC50	4.26 mg/l
Pentane	109-66-0	Green Algae	Experimental	72 hours	NOEC	2.04 mg/l
Propane	74-98-6		Data not available or insufficient for classification			
Dimethyl Ether	115-10-6	Water flea	Experimental	48 hours	EC50	>4,000 mg/l
Dimethyl Ether	115-10-6	Guppy	Experimental	96 hours	LC50	>4,000 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Butane	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	6.3 days (t 1/2)	Other methods
Cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	Other methods
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 % weight	OECD 301F - Manometric respirometry
Isobutane	75-28-5	Experimental Photolysis		Photolytic half-life (in air)	13.7 days (t 1/2)	Other methods
Pentane	109-66-0	Experimental Photolysis		Photolytic half-life (in air)	8.07 days (t 1/2)	Other methods
Pentane	109-66-0	Experimental	28 days	BOD	96 % weight	OECD 301C - MITI

		Biodegradation				test (I)
Propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	Other methods
Dimethyl Ether	115-10-6	Experimental Photolysis		Photolytic half-life (in air)	10.77 days (t 1/2)	Other methods

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Butane	106-97-8	Experimental Bioconcentration		Log Kow	2.88	Other methods
Cyclohexane	110-82-7	Experimental BCF-Carp	56 days	Bioaccumulation factor	<129	Other methods
Isobutane	75-28-5	Experimental BCF - Other		Bioaccumulation factor	1.97	Other methods
Pentane	109-66-0	Estimated Bioconcentration		Bioaccumulation factor	26	Estimated: Bioconcentration factor
Propane	74-98-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dimethyl Ether	115-10-6	Experimental Bioconcentration		Log Kow	0.2	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. 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. Facility must be capable of handling aerosol cans. The facility should be equipped to handle gaseous waste. 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

YP-2080-6119-9, YP-2080-6163-7

ADR/RID: UN1950, AEROSOLS, LIMITED QUANTITY, 2.1, (E), ADR Classification Code: 5F.
IMDG-CODE: UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, EMS: FD,SU.
ICAO/IATA: UN1950, AEROSOLS, FLAMMABLE, 2.1.

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.

15.2. Chemical Safety Assessment
Not applicable

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.
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.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R11	Highly flammable.
R12	Extremely flammable.
R38	Irritating to skin.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R65	Harmful: May cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Revision information:
Revision Changes:
Section 8: Eye/face protection information information was modified.

Section 8: Skin protection - recommended gloves information information was modified.
Safety phrase information was modified.
Section 16: List of relevant R phrase information information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 8: Occupational exposure limit table information was modified.
Aspiration Hazard Table information was modified.
Section 11: Acute Toxicity table information was modified.
Carcinogenicity Table information was modified.
Serious Eye Damage/Irritation Table information was modified.
Germ Cell Mutagenicity Table information was modified.
Skin Sensitisation Table information was modified.
Respiratory Sensitisation Table information was modified.
Reproductive Toxicity Table information was modified.
Skin Corrosion/Irritation Table information was modified.
Target Organs - Repeated Table information was modified.
Target Organs - Single Table information was modified.
Section 5: Hazardous combustion products table information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 13: Standard Phrase Category Waste GHS 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.
Section 11: Single exposure may cause standard phrases information was modified.
Section 9: Solubility in water text information was added.
Label: Signal Word - Header information was added.
Label: Signal Word information was added.
Label: CLP Classification - Header information was added.
Label: CLP Classification information was added.
Label: CLP Classification information was added.
Label: CLP Classification - Header information was added.
Label: CLP Percent Unknown information was added.
Label: CLP Percent Unknown information was added.
Label: CLP Environmental Hazard Statements information was added.
Label: Graphic information was added.
Label: Graphic information was added.
Label: Symbol information was added.
Label: Symbol information was added.
Label: CLP Precautionary - Disposal information was added.
Label: CLP Precautionary - Disposal - Header information was added.
Label: CLP Precautionary - General information was added.
Label: CLP Precautionary - General - Header information was added.
Label: CLP Precautionary - Prevention information was added.
Label: CLP Precautionary - Prevention - Header information was added.
Label: CLP Precautionary - Response information was added.
Label: CLP Precautionary - Response - Header information was added.
Label: Precautionary Statement - Header information was added.
CLP: Ingredient table information was added.
Label: CLP Supplemental Information - Header information was added.
Label: CLP Supplemental Precautionary Statements - Header information was added.

Label: CLP Supplemental Precautionary Statements information was added.
Section 2: Notes on labelling heading information was added.
Section 15: Label remarks and EU Detergent information was added.
CLP Remark(phrase) information was added.
Section 2: 2.2 & 2.3. CLP REGULATION heading information was added.
Label: CLP Ingredients table Ingredient heading information was added.
Label: CLP Ingredients table CAS No heading information was added.
Label: CLP Ingredients table Percent by Wt heading information was added.
Section 09: Solubility as text (non-water) information was added.
Section 2: H phrase reference information was added.
Section 9: Solubility in water value information was deleted.
Section 12: Acute aquatic hazard information information was deleted.
Section 12: Chronic aquatic hazard heading information was deleted.
Section 12: Acute aquatic hazard heading information was deleted.
Section 12: Chronic aquatic hazard information information was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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