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(TM) Spray Adhesive 90 Methylene Chloride Free (PL4441)

Product identification numbers

YP-2080-6128-0

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

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

Extremely flammable; F+; R12
R66
R67
Dangerous for the environment; N; R51/53

For full text of R phrases, see Section 16.

2.2. Label elements

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

Symbol(s)


Extremely Flammable


Dangerous for the environment

Contains:

No ingredients are assigned to the label.

Risk phrases

R12	Extremely flammable.
R66	Repeated exposure may cause skin dryness or cracking.
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

S23C	Do not breathe vapour or spray.
S51	Use only in well ventilated areas.
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.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Dimethyl Ether	115-10-6	EINECS 204-065-8	40 - 60	F+:R12 (EU) Flam. Gas 1, H220; Liquified gas, H280 - Nota U (CLP)
Pentane	109-66-0	EINECS 203-692-4	10 - 30	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)
Non-volatiles	Trade Secret		7 - 13	
Acetone	67-64-1	EINECS 200-	7 - 13	F:R11; Xi:R36; R66; R67 (EU)

		662-2		Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336; EUH066 (CLP)
Cyclohexane	110-82-7	EINECS 203-806-2	1 - 10	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)
2-methyl butane	78-78-4	EINECS 201-142-8	1 - 10	F+:R12; Xn:R65; N:R51/53; R66; R67 - Nota 4,C (EU) Flam. Liq. 1, H224; Asp. Tox. 1, H304; STOT SE 3, H336; EUH066; Aquatic Chronic 2, H411 (CLP)
Tris(nonylphenyl) phosphite	26523-78-4	EINECS 247-759-6	< 0.1	N:R50/53; R43 (EU) Skin Sens. 1B, H317; Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (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
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

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

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

Use a fire fighting agent suitable for the surrounding fire.

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Formaldehyde	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

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. 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. An appropriate aqueous film forming foam (AFFF) is recommended. 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. 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
Vapours may travel long distances along the ground or floor to an ignition source and flash back. Do not use in a confined area or areas with little or no air movement. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: 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.)

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. 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
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)	
Acetone	67-64-1	Health and Safety Comm. (UK)	TWA:1210 mg/m³(500 ppm);STEL:3620 mg/m³(1500 ppm)	
2-methyl butane	78-78-4	Health and Safety Comm. (UK)	TWA:1800 mg/m³(600 ppm)	

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
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

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

Skin/hand protection

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

Wear respiratory protection if ventilation is inadequate to prevent overexposure.
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Aerosol
Appearance/Odour	Solvent odour; Clear
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Melting point	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>= -55 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative density	0.71 [*Ref Std:*WATER=1]
Water solubility	*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	*No data available.*
Viscosity	*Not applicable.*
Density	0.71 g/ml

9.2. Other information

Volatile organic compounds (VOC)	636 g/l
Percent volatile	89.6 % weight
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 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
Dermal Defatting: Signs/symptoms may include localised redness, itching, drying and cracking of skin.

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

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.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Dimethyl Ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 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
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
2-methyl butane	Dermal	Rabbit	LD50 3,000 mg/kg
2-methyl butane	Inhalation-Vapor (4 hours)	Rat	LC50 > 18 mg/l
2-methyl butane	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
Tris(nonylphenyl) phosphite	Dermal	Rabbit	LD50 > 2,000 mg/kg
Tris(nonylphenyl) phosphite	Ingestion	Rat	LD50 19,500 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Dimethyl Ether		Data not available or insufficient for classification
Pentane	Rabbit	Minimal irritation
Acetone	Mouse	Minimal irritation
2-methyl butane	Rabbit	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Tris(nonylphenyl) phosphite	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Dimethyl Ether		Data not available or insufficient for classification
Pentane	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
2-methyl butane	Rabbit	Mild irritant
Cyclohexane	Rabbit	Mild irritant
Tris(nonylphenyl) phosphite	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Dimethyl Ether		Data not available or insufficient for classification
Pentane	Guinea pig	Not sensitizing
Acetone		Data not available or insufficient for classification
2-methyl butane	Guinea pig	Not sensitizing
Cyclohexane		Data not available or insufficient for classification
Tris(nonylphenyl) phosphite	Guinea pig	Sensitising

Respiratory Sensitisation

Name	Species	Value

Dimethyl Ether		Data not available or insufficient for classification
Pentane		Data not available or insufficient for classification
Acetone		Data not available or insufficient for classification
2-methyl butane		Data not available or insufficient for classification
Cyclohexane		Data not available or insufficient for classification
Tris(nonylphenyl) phosphite		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Pentane	In vivo	Not mutagenic
Pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-methyl butane	In vivo	Not mutagenic
2-methyl butane	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
Tris(nonylphenyl) phosphite	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Dimethyl Ether	Inhalation	Rat	Not carcinogenic
Pentane			Data not available or insufficient for classification
Acetone	Not specified.	Multiple animal species	Not carcinogenic
2-methyl butane			Data not available or insufficient for classification
Cyclohexane			Data not available or insufficient for classification
Tris(nonylphenyl) phosphite	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
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
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	during organogenesis

				mg/kg/day	
Pentane	Inhalation	Not toxic to development	Rat	NOAEL 30 mg/l	during organogenesis
Acetone	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Acetone	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
2-methyl butane	Inhalation	Not toxic to female reproduction	Rat	NOAEL 20 mg/l	13 weeks
2-methyl butane	Inhalation	Not toxic to male reproduction	Rat	NOAEL 20 mg/l	13 weeks
2-methyl butane	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
2-methyl butane	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
Tris(nonylphenyl) phosphite	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	1 generation
Tris(nonylphenyl) phosphite	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	1 generation
Tris(nonylphenyl) phosphite	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	1 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes

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 sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	not available
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
2-methyl butane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
2-methyl butane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
2-methyl butane	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	not available
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Tris(nonylphenyl) phosphite			Data not available or insufficient for classification			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target	Value	Species	Test result	Exposure

		Organ(s)				**Duration**
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
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 | eyes | kidney and/or bladder | respiratory system	All data are negative	Rat	NOAEL 20 mg/l	13 weeks
Pentane	Ingestion	kidney and/or bladder	All data are negative	Rat	NOAEL 2,000 mg/kg/day	28 days
Acetone	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart | liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Some positive data exist, but the	Rat	NOAEL 2,500 mg/kg/day	13 weeks

			data are not sufficient for classification			
Acetone	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin | bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
2-methyl butane	Inhalation	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
2-methyl butane	Inhalation	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system	All data are negative	Rat	NOAEL 20 mg/l	13 weeks
2-methyl butane	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	Mouse	NOAEL 24 mg/l	14 weeks

			sufficient for classification			
Cyclohexane	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
Tris(nonylphenyl) phosphite	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	2 years
Tris(nonylphenyl) phosphite	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	1 generation
Tris(nonylphenyl) phosphite	Ingestion	respiratory system	All data are negative	Rat	NOAEL 500 mg/kg/day	2 years

Aspiration Hazard

Name	Value
Dimethyl Ether	Not an aspiration hazard
Pentane	Aspiration hazard
Acetone	Not an aspiration hazard
2-methyl butane	Aspiration hazard
Cyclohexane	Aspiration hazard
Tris(nonylphenyl) phosphite	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
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
Acetone	67-64-1	Green Algae	Experimental	96 hours	EC50	2,574 mg/l
Acetone	67-64-1	Water flea	Experimental	48 hours	EC50	13,500 mg/l
Cyclohexane	110-82-7	Green algae	Experimental	72 hours	EC50	3.4 mg/l
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
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
Pentane	109-66-0	Rainbow trout	Experimental	96 hours	LC50	4.26 mg/l
Pentane	109-66-0	Water flea	Experimental	48 hours	EC50	9.74 mg/l
2-methyl butane	78-78-4		Data not available or insufficient for			

			classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Dimethyl Ether	115-10-6	Experimental Photolysis		Photolytic half-life (in air)	10.77 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
Pentane	109-66-0	Experimental Photolysis		Photolytic half-life (in air)	8.14 days (t 1/2)	Other methods
2-methyl butane	78-78-4	Experimental Photolysis		Photolytic half-life (in air)	8.11 days (t 1/2)	Other methods
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	96 % weight	OECD 301C - MITI test (I)
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 % weight	OECD 301F - Manometric respirometry
Pentane	109-66-0	Experimental Biodegradation	28 days	BOD	96 % weight	OECD 301C - MITI test (I)
2-methyl butane	78-78-4	Experimental Biodegradation	20 days	Percent degraded	100 % weight	Other methods
Dimethyl Ether	115-10-6	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Cyclohexane	110-82-7	Experimental BCF - Other	56 days	Bioaccumulation factor	<129	Other methods
2-methyl butane	78-78-4	Estimated BCF - Other		Bioaccumulation factor	65	Estimated: Bioconcentration factor
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	Other methods
Pentane	109-66-0	Experimental Bioaccumulation		Log Kow	3.39	Other methods
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

Ingredient	CAS Nbr	PBT/vPvB status
Tris(nonylphenyl) phosphite	26523-78-4	Meets REACH PBT criteria

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

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

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

EU waste code (product as sold)
08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
16 05 04* Gases in pressure containers (including halons) containing dangerous substances

EU waste code (product container after use)
15 01 04 Metallic packaging

SECTION 14: Transportation information

YP-2080-6128-0

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.
H224	Extremely flammable liquid and vapour.
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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R11	Highly flammable.
R12	Extremely flammable.
R36	Irritating to eyes.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
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:
Safety phrase was modified.
Section 16: List of relevant R phrase information was modified.
Section 3: Composition/ Information of ingredients table was modified.
Copyright was modified.
Aspiration Hazard Table was modified.
Section 11: Acute Toxicity table was modified.
Carcinogenicity Table was modified.
Serious Eye Damage/Irritation Table was modified.
Germ Cell Mutagenicity Table was modified.
Skin Sensitisation Table was modified.
Respiratory Sensitisation Table was modified.
Reproductive Toxicity Table was modified.
Skin Corrosion/Irritation Table was modified.
Target Organs - Repeated Table was modified.
Target Organs - Single Table was modified.
Section 5: Fire - Extinguishing media information was modified.
Section 6: Accidental release clean-up information was modified.
Section 7: Precautions safe handling information was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. was modified.
Section 8: Skin protection - protective clothing text was added.
Section 12: Component ecotoxicity information was added.
Section 12: Persistence and Degradability information was added.
Section 12:Bioccumulative potential information was added.
Section 12: Component Ecotoxicity table Material column header was added.
Section 12: Component Ecotoxicity table CAS No column header was added.
Section 12: Component Ecotoxicity table Organism column header was added.
Section 12: Component Ecotoxicity table Type column header was added.
Section 12: Component Ecotoxicity table Exposure column header was added.
Section 12: Component Ecotoxicity table End point column header was added.
Section 12: Component Ecotoxicity table Result column header was added.
Section 12: Persistence and degradability table Material column header was added.
Section 12: Persistence and degradability table CAS No column header was added.
Section 12: Persistence and degradability table Test Type column header was added.
Section 12: Persistence and degradability table Duration column header was added.
Section 12: Persistence and degradability table Test Result column header was added.
Section 12: Persistence and degradability table Protocol column header was added.
Section 12:Bioccumulative potential table Material column header was added.

Section 12:Bioccumulative potential table CAS No column header was added.
Section 12:Bioccumulative potential table CAS No column header was added.
Section 12:Bioccumulative potential table Test Result column header was added.
Section 12:Bioccumulative potential table Protocol column header was added.
Section 12:Bioccumulative potential table Test Type column header was added.
Prints No Data if Material ecotoxicity information is not present was added.
Section 12: PBT/vPvB table CAS No. column heading was added.
Section 12: PBT/vPvB table CAS No. column heading was added.
Section 12: PBT/vPvB table PBT/vPvB Status column heading was added.
Section 12: PBT/vPvB table row was added.
Section 12: Persistence and degradability table Study Type column header was added.
Section 12:Bioccumulative potential table Test Type column header was added.
Section 9: Odour Threshold was added.
Section 9: Solubility (non-water) was added.
Section 09: Decomposition Temperature was added.
Section 11: Single exposure may cause: heading was added.
Section 11: Single exposure may cause standard phrases was added.
Section 12: Acute aquatic hazard information was deleted.
Section 12: Chronic aquatic hazard heading was deleted.
Section 12: Acute aquatic hazard heading was deleted.
Section 12: Chronic aquatic hazard information was deleted.
Section 12: Material ecotoxicity information was deleted.
Section 12: Material Ecotoxicity table Material column header was deleted.
Section 12: Material Ecotoxicity table Organism column header was deleted.
Section 12: Material Ecotoxicity table Type column header was deleted.
Section 12: Material Ecotoxicity table Exposure column header was deleted.
Section 12: Material Ecotoxicity table End point column header was deleted.
Section 12: Material Ecotoxicity table Result column header was deleted.
Prints No Data if Component ecotoxicity information is not present was deleted.
Prints No Data if Persistence and Degradability information is not present was deleted.
Prints No Data if Bioccumulative potential information is not present was deleted.
Section 11: Health Effects - Other information was deleted.
Section 12: No PBT/vPvB information available warning 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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