



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Hi-Strength Spray Adhesive 90 (aerosol)

#### Product Identification Numbers

62-4942-4921-2      62-4942-4950-1      AS-0194-6119-8

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Aerosol adhesive. Recommended for industrial and professional use., hi-strength aerosol adhesive

For Industrial or Consumer Use.

#### 1.3. Supplier's details

**Address:** 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113  
**Telephone:** 136 136  
**E Mail:** productinfo.au@mmm.com  
**Website:** www.3m.com.au

#### 1.4. Emergency telephone number

EMERGENCY: 1800 097 146 (Australia only)

### SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

#### 2.1. Classification of the substance or mixture

Flammable Aerosol: Category 1.  
Gas under pressure: Liquefied gas.  
Serious Eye Damage/Irritation: Category 2.  
Reproductive Toxicity: Category 1.  
Specific Target Organ Toxicity (single exposure): Category 2.  
Specific Target Organ Toxicity (single exposure): Category 3

Specific Target Organ Toxicity (single exposure): Category 3

## 2.2. Label elements

The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

### Signal word

Danger

### Symbols

Flame | Gas cylinder | Exclamation mark | Health Hazard |

### Pictograms



### Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H280	Contains gas under pressure; may explode if heated.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H371	May cause damage to organs: cardiovascular system.

### Precautionary statements

#### General:

P102	Keep out of reach of children.
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#### Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280F	Wear respiratory protection.

#### Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P337 + P313	IF eye irritation persists: Get medical advice/attention.

#### Storage:

P405	Store locked up.
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P410 + P412

Protect from sunlight. Do not expose to temperatures exceeding 50°C.

**Disposal:**

P501

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

**2.3. Other assigned/identified product hazards**

3M Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. Aspiration classification does not apply as this product is sold in sealed, self-pressurized containers with nozzles designed to prevent formation of a stream during usage. May displace oxygen and cause rapid suffocation.

**2.4. Other hazards which do not result in classification**

Causes mild skin irritation.

Toxic to aquatic life.

**SECTION 3: Composition/information on ingredients**

This material is a mixture.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>% by Weight</b>
Dimethyl ether	115-10-6	35 - 45
Methyl acetate	79-20-9	25 - 35
Cyclohexane	110-82-7	7 - 13
Terpene polymer	31393-98-3	1 - 10
Nonvolatile components	Trade Secret	1 - 10
1,1-Difluoroethane	75-37-6	1 - 5
Pentane	109-66-0	1 - 5
Toluene	108-88-3	< 1

**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**

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

**4.3. Indication of any immediate medical attention and special treatment required**

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

**SECTION 5: Fire-fighting measures**

**5.1. Suitable 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**

Aldehydes.  
Formaldehyde  
Carbon monoxide.  
Carbon dioxide.  
Hydrogen Fluoride  
Irritant vapours or gases.

**Condition**

During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.  
During combustion.

**5.3. Special protective actions for fire-fighters**

No special protective actions for fire-fighters are anticipated.

**Hazchem Code:** 2YE

**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 vapors, 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**

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. Close cylinder. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

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**

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store away from heat. Store away from acids. Store away from oxidising agents.

**SECTION 8: Exposure controls/personal protection**

## 8.1 Control parameters

### Occupational exposure limits

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcinogen, Ototoxicant
Toluene	108-88-3	Australia OELs	TWA(8 hours):191 mg/m3(50 ppm);STEL(15 minutes):574 mg/m3(150 ppm)	SKIN
Pentane	109-66-0	ACGIH	TWA:1000 ppm	
Pentane	109-66-0	Australia OELs	TWA(8 hours):1770 mg/m3(600 ppm);STEL(15 minutes):2210 mg/m3(750 ppm)	
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Cyclohexane	110-82-7	Australia OELs	TWA(8 hours):350 mg/m3(100 ppm);STEL(15 minutes):1050 mg/m3(300 ppm)	
Dimethyl ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Dimethyl ether	115-10-6	Australia OELs	TWA(8 hours):760 mg/m3(400 ppm);STEL(15 minutes):950 mg/m3(500 ppm)	
1,1-Difluoroethane	75-37-6	AIHA	TWA:2700 mg/m3(1000 ppm)	
Methyl acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
Methyl acetate	79-20-9	Australia OELs	TWA(8 hours):606 mg/m3(200 ppm);STEL(15 minutes):757 mg/m3(250 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Sen: Sensitiser

Sk: Absorption through the skin may be a significant source of exposure.

## 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

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance

specifications of AS/NZS 1337.

### Skin/hand protection

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

Select and use gloves according to AS/NZ 2161.

### Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

Half facepiece or full facepiece supplied-air respirator.

Organic vapour respirators may have short service life.

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

Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Gas.
<b>Specific Physical Form:</b>	Aerosol
<b>Colour</b>	Colorless
<b>Odour</b>	Sweet Odour, Fruity Odour
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>No data available.</i>
<b>Melting point/Freezing point</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	<i>Not applicable.</i>
<b>Flash point</b>	-41.1 °C [Test Method: Tagliabue closed cup]
<b>Evaporation rate</b>	1.9 [Ref Std: ETHER=1]
<b>Flammability (solid, gas)</b>	Flammable Aerosol: Category 1.
<b>Flammable Limits(LEL)</b>	<i>No data available.</i>
<b>Flammable Limits(UEL)</b>	<i>No data available.</i>
<b>Vapour pressure</b>	[Details: Compressed gas] <i>Not applicable.</i>
<b>Vapor Density and/or Relative Vapor Density</b>	2.97 [Ref Std: AIR=1]
<b>Density</b>	0.726 g/ml
<b>Relative density</b>	0.726 [Ref Std: WATER=1]
<b>Water solubility</b>	Nil
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>Not applicable.</i>
<b>Viscosity/Kinematic Viscosity</b>	<i>Not applicable.</i>
<b>Volatile organic compounds (VOC)</b>	<i>No data available.</i>
<b>Percent volatile</b>	<i>No data available.</i>

<b>VOC less H2O &amp; exempt solvents</b>	<=55 % [ <i>Test Method:</i> calculated per CARB title 2]
<b>Molecular weight</b>	<i>No data available.</i>

## **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. Conditions to avoid**

Heat.

### **10.4. Possibility of hazardous reactions**

Hazardous polymerisation will not occur.

### **10.5 Incompatible materials**

Strong oxidising agents.

### **10.6 Hazardous decomposition products**

#### **Substance**

#### **Condition**

None known.

Dust created by grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

## **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**

Simple asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

#### **Skin contact**

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

#### **Eye contact**

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

#### **Ingestion**

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

May cause additional health effects (see below).

#### Additional Health Effects:

##### Single exposure may cause target organ effects:

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: 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

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Dimethyl ether	Inhalation-Gas (4 hours)	Rat	LC50 164,000 ppm
Methyl acetate	Dermal	Rat	LD50 > 2,000 mg/kg
Methyl acetate	Inhalation-Vapour (4 hours)	Rat	LC50 > 49 mg/l
Methyl acetate	Ingestion	Rat	LD50 > 5,000 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapour (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Terpene polymer	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Terpene polymer	Ingestion	Rat	LD50 > 2,000 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
1,1-Difluoroethane	Inhalation-Gas (4 hours)	Rat	LC50 > 437,000 ppm
Nonvolatile components	Dermal	Rabbit	LD50 > 2,000 mg/kg
Nonvolatile components	Ingestion	Rat	LD50 > 5,000 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapour (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Methyl acetate	Rabbit	No significant irritation
Cyclohexane	Rabbit	Mild irritant



Terpene polymer	In vitro data	No significant irritation
Pentane	Rabbit	Minimal irritation
Nonvolatile components	Professional judgement	No significant irritation
Toluene	Rabbit	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Methyl acetate	Rabbit	Moderate irritant
Cyclohexane	Rabbit	Mild irritant
Terpene polymer	In vitro data	No significant irritation
Pentane	Rabbit	Mild irritant
Toluene	Rabbit	Moderate irritant

**Skin Sensitisation**

Name	Species	Value
Methyl acetate	Human	Not classified
Terpene polymer	Multiple animal species	Not classified
Pentane	Guinea pig	Not classified
Toluene	Guinea pig	Not classified

**Respiratory Sensitisation**

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

**Germ Cell Mutagenicity**

Name	Route	Value
Dimethyl ether	In Vitro	Not mutagenic
Dimethyl ether	In vivo	Not mutagenic
Methyl acetate	In Vitro	Not mutagenic
Methyl acetate	In vivo	Not mutagenic
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Terpene polymer	In Vitro	Not mutagenic
Pentane	In vivo	Not mutagenic
Pentane	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1-Difluoroethane	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1-Difluoroethane	In vivo	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Dimethyl ether	Inhalation	Rat	Not carcinogenic
1,1-Difluoroethane	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	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
Dimethyl ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis
Cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation
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
1,1-Difluoroethane	Inhalation	Not classified for development	Rat	NOAEL 50,000 ppm	during organogenesis
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse

## 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
Methyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Methyl acetate	Inhalation	blindness	Not classified		NOAEL Not available	
Methyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not	Human and animal	NOAEL Not available	

			sufficient for classification			
Cyclohexane	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 sensitization	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
1,1-Difluoroethane	Inhalation	cardiac sensitization	Causes damage to organs	Human and animal	NOAEL Not available	poisoning and/or abuse
1,1-Difluoroethane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL 100,000 ppm	
1,1-Difluoroethane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	not available
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Dimethyl ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Dimethyl ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks
Methyl acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
Methyl acetate	Inhalation	endocrine system   hematopoietic system   liver   immune system	Not classified	Rat	NOAEL 6.1 mg/l	28 days

		kidney and/or bladder				
Cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
Terpene polymer	Ingestion	heart   gastrointestinal tract   hematopoietic system   liver   nervous system   eyes   kidney and/or bladder	Not classified	Rat	NOAEL 331 mg/kg/day	90 days
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
1,1-Difluoroethane	Inhalation	hematopoietic system   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Toluene	Inhalation	auditory system   eyes   olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart   liver   kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks

Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system   vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver   kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks

**Aspiration Hazard**

Name	Value
Cyclohexane	Aspiration hazard
Pentane	Aspiration hazard
Toluene	Aspiration hazard

**Exposure Levels**

Refer Section 8.1 **Control Parameters** of this Safety Data Sheet.

**Interactive Effects**

Not determined.

## SECTION 12: Ecological information

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

**12.1. Toxicity****Acute aquatic hazard:**

GHS Acute 2: Toxic to aquatic life.

**Chronic aquatic hazard:**

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Dimethyl ether	115-10-6	Bacteria	Experimental	N/A	EC10	>1,600 mg/l
Dimethyl ether	115-10-6	Guppy	Experimental	96 hours	LC50	>4,100 mg/l
Dimethyl ether	115-10-6	Water flea	Experimental	48 hours	EC50	>4,400 mg/l
Methyl acetate	79-20-9	Bacteria	Experimental	16 hours	EC50	6,000 mg/l
Methyl acetate	79-20-9	Green algae	Experimental	72 hours	ErC50	>120 mg/l
Methyl acetate	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l
Methyl acetate	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
Cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
Cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
Cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
Nonvolatile components	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Terpene polymer	31393-98-3	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
Terpene polymer	31393-98-3	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Terpene polymer	31393-98-3	Water flea	Endpoint not reached	21 days	EL10	>100 mg/l
1,1-Difluoroethane	75-37-6	Bacteria	Analogous Compound	6 hours	EC50	>472.57 mg/l
1,1-Difluoroethane	75-37-6	Rainbow trout	Analogous Compound	96 hours	LC50	291.31 mg/l
1,1-Difluoroethane	75-37-6	Water flea	Analogous Compound	48 hours	EC50	634.41 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
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
Toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
Toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
Toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
Toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
Toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
Toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
Toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
Toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)

## 12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Dimethyl ether	115-10-6	Experimental Biodegradation	28 days	BOD	5 %BOD/ThOD	OECD 301D - Closed bottle test
Dimethyl ether	115-10-6	Experimental Photolysis		Photolytic half-life (in air)	12.4 days (t 1/2)	
Methyl acetate	79-20-9	Experimental Biodegradation	28 days	BOD	70 %BOD/ThOD	OECD 301D - Closed bottle test
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry
Cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	
Nonvolatile components	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A

**3M™ Hi-Strength Spray Adhesive 90 (aerosol)**

Terpene polymer	31393-98-3	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
1,1-Difluoroethane	75-37-6	Analogous Compound Biodegradation	28 days	BOD	3 %BOD/ThOD	OECD 301D - Closed bottle test
1,1-Difluoroethane	75-37-6	Modeled Photolysis		Photolytic half-life (in air)	916 days (t 1/2)	Episuite™
Pentane	109-66-0	Experimental Biodegradation	28 days	BOD	87 %BOD/ThOD	OECD 301F - Manometric respirometry
Pentane	109-66-0	Experimental Photolysis		Photolytic half-life (in air)	8.07 days (t 1/2)	
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 %BOD/ThOD	APHA Std Meth Water/Wastewater
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	

**12.3 : Bioaccumulative potential**

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Dimethyl ether	115-10-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methyl acetate	79-20-9	Experimental Bioconcentration		Log Kow	0.18	
Cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
Nonvolatile components	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Terpene polymer	31393-98-3	Experimental Bioconcentration		Log Kow	7.41	
1,1-Difluoroethane	75-37-6	Modeled Bioconcentration		Log Kow	1.13	Episuite™
Pentane	109-66-0	Estimated Bioconcentration		Bioaccumulation factor	26	
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1. Disposal methods**

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. Combustion products will include HF. Facility must be capable of handling halogenated materials. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. The facility should be equipped to handle gaseous waste.

**SECTION 14: Transport Information****Australian Dangerous Goods Code (ADG) - Road/Rail Transport**

UN No.: UN1950

**Proper shipping name:** AEROSOLS

**Class/Division:** 2.1

**Sub Risk:** Not applicable.

**Packing Group:** Not applicable.

**Special Instructions:** Limited quantity may apply

**Hazchem Code:** 2YE

**IERG:** 49

**International Air Transport Association (IATA) - Air Transport**

**UN No.:** UN1950

**Proper shipping name:** AEROSOLS , ( AEROSOLS (FLAMMABLE) )

**Class/Division:** 2.1

**Sub Risk:** Not applicable.

**Packing Group:** Not applicable.

**International Maritime Dangerous Goods Code (IMDG)- Marine Transport**

**UN No.:** UN1950

**Proper shipping name:** AEROSOLS

**Class/Division:** 2.1

**Sub Risk:** Not applicable.

**Packing Group:** Not applicable.

**Marine Pollutant:** Not applicable.

**Special Instructions:** Limited quantity may apply

## **SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Australian Inventory Status:**

The chemical components contained within this product are listed on the Australian Inventory of Chemical Substances and are in compliance with the requirements of the Industrial Chemicals (Notification and Assessment) Act 1989 as amended.

**Poison Schedule:** This product is not a scheduled poison according to the criteria of the Standard for the Uniform Scheduling of Medicines and Poisons.

## **SECTION 16: Other information**

#### **Revision information:**

Update for newly available hazard classification information.

**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 Safety 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.

Greenguard® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

**3M Australia SDSs are available at [www.3m.com.au](http://www.3m.com.au)**