



## 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-Tack Composite Spray Adhesive 71 Green

#### Product Identification Numbers

62-4867-4930-2

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

##### Recommended use

Adhesive, Industrial use.

For Industrial or Professional use only.

#### 1.3. Supplier's details

<b>Address:</b>	3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
<b>Telephone:</b>	136 136
<b>E Mail:</b>	productinfo.au@mmm.com
<b>Website:</b>	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.

Serious Eye Damage/Irritation: Category 2.

Skin Sensitizer: Category 1B.

Reproductive Toxicity: Category 1.

Specific Target Organ Toxicity (single exposure): Category 1.

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 | Exclamation mark | Health Hazard |

### Pictograms



### Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: may burst if heated.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs: cardiovascular system.

### Precautionary statements

#### 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.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280F	Wear respiratory protection.

#### Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	IF eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.  
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. May displace oxygen and cause rapid suffocation. Repeated exposure may cause skin dryness or cracking.

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

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>
Acetone	67-64-1	35 - 45
Non-hazardous components	Trade Secret	10 - 25
1,1-Difluoroethane	75-37-6	10 - 20
Propane	74-98-6	10 - 15
Cyclohexane	110-82-7	< 10
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	5 - 10
Glycerol Esters of Rosin Acids	8050-31-5	1 - 5
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	1 - 5
Toluene	108-88-3	< 1
Benzene	71-43-2	< 0.05

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation**

Remove person to fresh air. Get medical attention.

**Skin contact**

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye contact**

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**

Allergic skin reaction (redness, swelling, blistering, and itching). 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. Exposure to extreme heat can give rise to thermal decomposition.

### **Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Fluoride	During combustion.

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

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**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. Collect the resulting residue containing solution per section 6.3.

### **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. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## **SECTION 7: Handling and storage**

### **7.1. Precautions for safe handling**

Avoid inhalation of thermal decomposition products. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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
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)	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	Australia OELs	TWA(8 hours):1185 mg/m3(500 ppm);STEL(15 minutes):2375 mg/m3(1000 ppm)	
Benzene	71-43-2	ACGIH	TWA:0.05 ppm;STEL:2.5 ppm	A1: Confirmed human carcin., SKIN
Benzene	71-43-2	Australia OELs	TWA(8 hours):3.2 mg/m3(1 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	asphyxiant
Propane	74-98-6	Australia OELs	Limit value not established:	Explosion hazard, asphyxiant
1,1-Difluoroethane	75-37-6	AIHA	TWA:2700 mg/m3(1000 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

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with

appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. 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:

Full face shield.

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

if this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - 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:

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

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>	Liquid.
<b>Specific Physical Form:</b>	Aerosol
<b>Colour</b>	Multicolour
<b>Odour</b>	Solvent
<b>Odour threshold</b>	<i>No data available.</i>

<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	-42.2 °C [ <i>Details: Acetone</i> ]
<b>Flash point</b>	-104.4 °C [ <i>Test Method: Closed Cup</i> ]
<b>Evaporation rate</b>	> 1 [ <i>Ref Std: BUOAC=1</i> ]
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	1.3 % volume
<b>Flammable Limits(UEL)</b>	12.8 % volume
<b>Vapour pressure</b>	<=551,553.1 Pa [ <i>@ 20 °C</i> ]
<b>Vapor Density and/or Relative Vapor Density</b>	> 1 [ <i>Ref Std: AIR=1</i> ]
<b>Density</b>	0.8 g/ml
<b>Relative density</b>	0.8 [ <i>Ref Std: WATER=1</i> ]
<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>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	<=100 mPa-s [ <i>@ 23 °C</i> ]
<b>Volatile organic compounds (VOC)</b>	<i>No data available.</i>
<b>Percent volatile</b>	<=80.6 % weight
<b>VOC less H<sub>2</sub>O &amp; exempt solvents</b>	<=25 % [ <i>Test Method: calculated per CARB title 2</i> ]
<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.

Sparks and/or flames.

### 10.4. Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.5 Incompatible materials

Not determined

### 10.6 Hazardous decomposition products

#### Substance

None known.

#### Condition

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

Dermal Defatting Prolonged or repeated exposure may cause: Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin. Dermal Defatting: Signs/symptoms may include localised redness, itching, drying and cracking of skin. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

##### 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 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
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapour (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
Propane	Inhalation-Gas (4	Rat	LC50 > 200,000 ppm

	hours)		
1,1-Difluoroethane	Inhalation-Gas (4 hours)	Rat	LC50 > 437,000 ppm
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
Rosin, Fumarated, Polymer with Glycerol	Dermal	Rat	LD50 > 2,000 mg/kg
Rosin, Fumarated, Polymer with Glycerol	Ingestion	Rat	LD50 > 2,000 mg/kg
Glycerol Esters of Rosin Acids	Ingestion	Rat	LD50 >300, <2000 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
Resin acids and Rosin acids, esters with diethylene glycol	Ingestion	Rat	LD50 >300, <2000 mg/kg
Benzene	Dermal	Multiple animal species	LD50 > 8,260 mg/kg
Benzene	Inhalation-Vapour (4 hours)	Rat	LC50 43.8 mg/l
Benzene	Ingestion	Rat	LD50 5,970 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Acetone	Mouse	Minimal irritation
Propane	Rabbit	Minimal irritation
Cyclohexane	Rabbit	Mild irritant
Rosin, Fumarated, Polymer with Glycerol	Rabbit	No significant irritation
Glycerol Esters of Rosin Acids	In vitro data	No significant irritation
Toluene	Rabbit	Irritant
Resin acids and Rosin acids, esters with diethylene glycol	In vitro data	No significant irritation
Benzene	Rabbit	Irritant

#### Serious Eye Damage/Irritation

Name	Species	Value
Acetone	Rabbit	Severe irritant
Propane	Rabbit	Mild irritant
Cyclohexane	Rabbit	Mild irritant
Rosin, Fumarated, Polymer with Glycerol	Rabbit	Moderate irritant
Glycerol Esters of Rosin Acids	In vitro data	No significant irritation
Toluene	Rabbit	Moderate irritant
Resin acids and Rosin acids, esters with diethylene glycol	In vitro data	No significant irritation
Benzene	Rabbit	Severe irritant

#### Skin Sensitisation

Name	Species	Value
Rosin, Fumarated, Polymer with Glycerol	Mouse	Sensitising
Glycerol Esters of Rosin Acids	In vitro data	Not classified
Toluene	Guinea pig	Not classified
Resin acids and Rosin acids, esters with diethylene	In vitro data	Not classified

glycol		
Benzene	Multiple animal species	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
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Propane	In Vitro	Not mutagenic
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
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Rosin, Fumarated, Polymer with Glycerol	In Vitro	Not mutagenic
Glycerol Esters of Rosin Acids	In Vitro	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Resin acids and Rosin acids, esters with diethylene glycol	In Vitro	Not mutagenic
Benzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Benzene	In vivo	Mutagenic

### Carcinogenicity

Name	Route	Species	Value
Acetone	Not specified.	Multiple animal species	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
Benzene	Dermal	Mouse	Carcinogenic.
Benzene	Ingestion	Multiple animal species	Carcinogenic.
Benzene	Inhalation	Human	Carcinogenic.

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
1,1-Difluoroethane	Inhalation	Not classified for development	Rat	NOAEL 50,000 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
Rosin, Fumarated, Polymer with Glycerol	Ingestion	Not classified for female reproduction	Rat	NOAEL 15,000 ppm in the diet	premating into lactation
Rosin, Fumarated, Polymer with Glycerol	Ingestion	Not classified for male reproduction	Rat	NOAEL 3,000 ppm in the diet	42 days
Rosin, Fumarated, Polymer with Glycerol	Ingestion	Not classified for development	Rat	NOAEL 622 mg/kg/day	during gestation
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
Benzene	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.96 mg/l	premating into lactation
Benzene	Inhalation	Not classified for development	Rat	NOAEL 0.032 mg/l	during organogenesis
Benzene	Ingestion	Toxic to male reproduction	Rat	LOAEL 50 mg/kg/day	90 days

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
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	Not classified	Human	NOAEL 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
Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Rosin, Fumarated, Polymer with Glycerol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL 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
Benzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available.	
Benzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available.	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart   liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks

Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin   bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
1,1-Difluoroethane	Inhalation	hematopoietic system   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 25,000 ppm	2 years
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
Rosin, Fumarated, Polymer with Glycerol	Ingestion	heart   hematopoietic system   liver   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 1,296 mg/kg/day	90 days
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 through 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
Benzene	Inhalation	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Human and animal	NOAEL Not available.	
Benzene	Inhalation	heart   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   liver   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 0.96 mg/l	90 days
Benzene	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 25 mg/kg/day	90 days
Benzene	Ingestion	heart   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   liver   immune system   nervous system   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	90 days

#### Aspiration Hazard

Name	Value
Cyclohexane	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
Acetone	67-64-1	Algae or other aquatic plants	Experimental	96 hours	EC50	11,493 mg/l
Acetone	67-64-1	Invertebrate	Experimental	24 hours	LC50	2,100 mg/l
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l
Acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
Acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
Acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
Non-hazardous components	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
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
Propane	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
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
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Zebra Fish	Analogous Compound	96 hours	LC50	>400 mg/l
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Green algae	Experimental	72 hours	EL50	>100 mg/l
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Water flea	Experimental	48 hours	EL50	>100 mg/l
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Green algae	Experimental	72 hours	NOEL	100 mg/l
Glycerol Esters of Rosin Acids	8050-31-5	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Glycerol Esters of Rosin Acids	8050-31-5	Rainbow trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l

Glycerol Esters of Rosin Acids	8050-31-5	Water flea	Estimated	48 hours	No tox obs at lmt of water sol	>100 mg/l
Glycerol Esters of Rosin Acids	8050-31-5	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Rainbow trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Water flea	Estimated	48 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Green algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 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)
Benzene	71-43-2	Green algae	Experimental	72 hours	EC50	100 mg/l
Benzene	71-43-2	Rainbow trout	Experimental	96 hours	LC50	5.3 mg/l
Benzene	71-43-2	Water flea	Experimental	48 hours	EC50	10 mg/l
Benzene	71-43-2	Fathead minnow	Experimental	32 days	NOEC	0.8 mg/l
Benzene	71-43-2	Green algae	Experimental	72 hours	EC10	34 mg/l
Benzene	71-43-2	Water flea	Experimental	7 days	NOEC	3 mg/l
Benzene	71-43-2	Bacteria	Experimental	24 hours	IC50	13 mg/l

## 12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 %BOD/ThOD	OECD 301D - Closed bottle test
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
Non-hazardous components	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
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™
Propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry

Cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Analogous Compound Biodegradation	28 days	CO2 evolution	5 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Glycerol Esters of Rosin Acids	8050-31-5	Estimated Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Glycerol Esters of Rosin Acids	8050-31-5	Estimated Biodegradation	28 days	CO2 evolution	19.7 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Estimated Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Estimated Biodegradation	28 days	CO2 evolution	19.7 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
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)	
Benzene	71-43-2	Experimental Biodegradation	28 days	BOD	96 %BOD/ThOD	OECD 301F - Manometric respirometry
Benzene	71-43-2	Experimental Photolysis		Photolytic half-life (in air)	26 days (t 1/2)	

### 12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	
Acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	
Non-hazardous components	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,1-Difluoroethane	75-37-6	Modeled Bioconcentration		Log Kow	1.13	Episuite™
Propane	74-98-6	Experimental Bioconcentration		Log Kow	2.36	
Cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Experimental Bioconcentration		Log Kow	>6.5	OECD 117 log Kow HPLC method
Rosin, Fumarated, Polymer with Glycerol	65997-10-6	Experimental Bioconcentration		Log Kow	2.48	OECD 117 log Kow HPLC method
Glycerol Esters of Rosin Acids	8050-31-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Resin acids and Rosin acids, esters with diethylene glycol	68153-38-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
Benzene	71-43-2	Experimental BCF - Other		Bioaccumulation factor	<10	similar to OECD 305
Benzene	71-43-2	Experimental Bioconcentration		Log Kow	2.13	

#### 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.

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. As a disposal alternative, utilize an acceptable permitted waste disposal facility.

### 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, 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:

All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC). Conditions may apply prior to introduction for direct importers of this product, Please contact 3M Australia on 136 136 for further details.

**Poison Schedule:** This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

## SECTION 16: Other information

### Revision information:

Complete document review.

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)**