



Safety Data Sheet

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Document group:	10-5259-6	Version number:	10.00
Issue Date:	28/02/2018	Supersedes date:	18/11/2016

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™ Heavy Drip-Chek™ Sealer, PN 08531

Product Identification Numbers

60-9800-2709-2 AS-0105-5829-9

1.2. Recommended use and restrictions on use

Recommended use

Automotive., Sealant.

For Industrial or Professional use only.

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 Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2.
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.

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

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

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H360	May damage fertility or the unborn child.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure: nervous system sensory organs

Precautionary statements

General:

P102	Keep out of reach of children.
P103	Read label before use.
P101	If medical advice is needed, have product container or label at hand.

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/sparks/open flames/hot surfaces. - No smoking.
P240	Ground/bond container and receiving equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P233	Keep container tightly closed.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280B	Wear protective gloves and eye/face protection.
P281	Use personal protective equipment as required.
P270	Do not eat, drink or smoke when using this product.
P264	Wash thoroughly after handling.

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Response:

P304 + P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P303 + P361 + P533

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/attention.

P332 + P313

If skin irritation occurs: Get medical advice/attention.

P362 + P364

Take off contaminated clothing and wash it before reuse.

P308 + P313

IF exposed or concerned: Get medical advice/attention.

P370 + P378G

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

Storage:

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

P235

Keep cool.

P405

Store locked up.

Disposal:

P501

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

2.3. Other assigned/identified product hazards

None known.

2.4. Other hazards which do not result in classification

May be harmful if inhaled. Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
Toluene	108-88-3	30 - 60
Acrylonitrile-Butadiene Polymer	9003-18-3	10 - 30
Formaldehyde, Polymer With 4-(1,1-Dimethylethyl)Phenol, Magnesium Oxide Complex	68037-42-3	5 - 15
Pentyl acetate	628-63-7	7 - 13
2-Methylbutyl Acetate	624-41-9	3 - 7
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	3 - 7
Salicylic acid	69-72-7	1 - 5
Titanium dioxide	13463-67-7	0.5 - 1.5
Zinc Oxide	1314-13-2	0.5 - 1.5
Ethylbenzene	100-41-4	< 0.5
Benzene	71-43-2	< 0.1
Formaldehyde	50-00-0	< 0.05

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, 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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

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

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide.

Carbon dioxide.

Toxic vapour, gas, particulate.

Condition

During combustion.

During combustion.

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: •3YE

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

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

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 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 breathing of vapours created during the cure cycle. Do not use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. 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
Ethylbenzene	100-41-4	Australia OELs	TWA(8 hours):434 mg/m ³ (100 ppm);STEL(15 minutes):543 mg/m ³ (125 ppm)	
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcinogen.
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	Australia OELs	TWA(8 hours):191 mg/m ³ (50 ppm);STEL(15 minutes):574 mg/m ³ (150 ppm)	SKIN
Silicon dioxide	112945-52-5	Australia OELs	TWA(respirable fraction)(8 hours):2 mg/m ³	
Zinc Oxide	1314-13-2	Australia OELs	TWA(as fume)(8 hours):5 mg/m ³ ;TWA(Inspirable dust)(8 hours):10 mg/m ³ ;STEL(as fume)(15 minutes):10 mg/m ³	
Zinc Oxide	1314-13-2	ACGIH	TWA(respirable fraction):2	

			mg/m3;STEL(respirable fraction):10 mg/m3	
Titanium dioxide	13463-67-7	Australia OELs	TWA(Inspirable dust)(8 hours):10 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m ³	A4: Not class. as human carcin
Formaldehyde	50-00-0	ACGIH	TWA:0.1 ppm;STEL:0.3 ppm	A2: Suspected human carcin., Dermal/Respiratory Sensitizer
Formaldehyde	50-00-0	Australia OELs	TWA(8 hours):1.2 mg/m3(1 ppm);STEL(15 minutes):2.5 mg/m3(2 ppm)	
2-Methylbutyl Acetate	624-41-9	ACGIH	TWA:50 ppm;STEL:100 ppm	
Pentyl acetate	628-63-7	ACGIH	TWA:50 ppm;STEL:100 ppm	
Pentyl acetate	628-63-7	Australia OELs	TWA(8 hours):270 mg/m3(50 ppm);STEL(15 minutes):541 mg/m3(100 ppm)	
Benzene	71-43-2	ACGIH	TWA:0.5 ppm;STEL:2.5 ppm	SKIN, A1: Confirmed human carcin.
Benzene	71-43-2	Australia OELs	TWA(8 hours):3.2 mg/m3(1 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: Sensitizer

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

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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. Use explosion-proof ventilation 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: Fluoroelastomer
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

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

Physical state	Liquid.
Appearance/Odour	Solvent odour; Gray viscous liquid
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	111.1 °C [<i>Details:</i> Toluene]
Flash point	4.4 °C [<i>Test Method:</i> Tagliabue closed cup]
Evaporation rate	6 [<i>Ref Std:</i> ETHER=1]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	1 % volume
Flammable Limits(UEL)	7 % volume
Vapour pressure	3,358.4 Pa [<i>@</i> 20 °C]
Vapour density	4 [<i>Ref Std:</i> AIR=1]
Density	0.97 g/ml
Relative density	0.97 [<i>Ref Std:</i> WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	Approximately 100,000 mPa-s [<i>@</i> 23 °C]
Molecular weight	<i>No data available.</i>
Volatile organic compounds (VOC)	649 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Volatile organic compounds (VOC)	66.9 % weight [<i>Test Method:</i> calculated per CARB title 2]
Percent volatile	66.9 % weight
VOC less H ₂ O & exempt solvents	649 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Solids content	33.9 % weight

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

Sparks and/or flames.

10.4. Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

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

May be harmful if inhaled. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Skin contact

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

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.

Prolonged or repeated exposure may cause target organ effects:

Ocular effects: Signs/symptoms may include blurred or significantly impaired vision. Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Olfactory effects: Signs/symptoms may include decreased ability to detect odours and complete loss of smell. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and

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changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

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 ₂₀ - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Toluene	Dermal	Rat	LD ₅₀ 12,000 mg/kg
Toluene	Inhalation-Vapour (4 hours)	Rat	LC ₅₀ 30 mg/l
Toluene	Ingestion	Rat	LD ₅₀ 5,550 mg/kg
Acrylonitrile-Butadiene Polymer	Dermal	Rabbit	LD ₅₀ > 15,000 mg/kg
Acrylonitrile-Butadiene Polymer	Ingestion	Rat	LD ₅₀ > 30,000 mg/kg
Formaldehyde, Polymer With 4-(1,1-Dimethylethyl)Phenol, Magnesium Oxide Complex	Dermal		LD ₅₀ estimated to be 2,000 - 5,000 mg/kg
Formaldehyde, Polymer With 4-(1,1-Dimethylethyl)Phenol, Magnesium Oxide Complex	Ingestion		LD ₅₀ estimated to be 2,000 - 5,000 mg/kg
Pentyl acetate	Dermal	Rabbit	LD ₅₀ 8,200 mg/kg
Pentyl acetate	Inhalation-Vapour (4 hours)	Rat	LC ₅₀ > 24.1 mg/l
Pentyl acetate	Ingestion	Rat	LD ₅₀ 5,000 mg/kg
Synthetic Amorphous Silica, Fumed, Crystalline Free	Dermal	Rabbit	LD ₅₀ > 5,000 mg/kg
Synthetic Amorphous Silica, Fumed, Crystalline Free	Inhalation-Dust/Mist (4 hours)	Rat	LC ₅₀ > 0.691 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Rat	LD ₅₀ > 5,110 mg/kg
2-Methylbutyl Acetate	Dermal	Rabbit	LD ₅₀ 8,200 mg/kg
2-Methylbutyl Acetate	Inhalation-Vapour (4 hours)	Rat	LC ₅₀ > 24.1 mg/l
2-Methylbutyl Acetate	Ingestion	Rat	LD ₅₀ 5,000 mg/kg
Salicylic acid	Dermal	Rat	LD ₅₀ > 2,000 mg/kg
Salicylic acid	Ingestion	Rat	LD ₅₀ 891 mg/kg
Zinc Oxide	Dermal		LD ₅₀ estimated to be > 5,000 mg/kg
Zinc Oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC ₅₀ > 5.7 mg/l
Zinc Oxide	Ingestion	Rat	LD ₅₀ > 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD ₅₀ > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC ₅₀ > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD ₅₀ > 10,000 mg/kg
Ethylbenzene	Dermal	Rabbit	LD ₅₀ 15,433 mg/kg
Ethylbenzene	Inhalation-Vapour (4	Rat	LC ₅₀ 17.4 mg/l

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	hours)		
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Formaldehyde	Dermal	Rabbit	LD50 270 mg/kg
Formaldehyde	Inhalation-Gas (4 hours)	Rat	LC50 470 ppm
Formaldehyde	Ingestion	Rat	LD50 800 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Toluene	Rabbit	Irritant
Acrylonitrile-Butadiene Polymer	Professional judgement	No significant irritation
Pentyl acetate	Rabbit	Mild irritant
Synthetic Amorphous Silica, Fumed, Crystalline Free	Rabbit	No significant irritation
2-Methylbutyl Acetate	Rabbit	Mild irritant
Salicylic acid	Rabbit	No significant irritation
Zinc Oxide	Human and animal	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Formaldehyde	official classification	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Toluene	Rabbit	Moderate irritant
Acrylonitrile-Butadiene Polymer	Professional judgement	No significant irritation
Pentyl acetate	Rabbit	Moderate irritant
Synthetic Amorphous Silica, Fumed, Crystalline Free	Rabbit	No significant irritation
2-Methylbutyl Acetate	Rabbit	Moderate irritant
Salicylic acid	Rabbit	Corrosive
Zinc Oxide	Rabbit	Mild irritant
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant
Formaldehyde	official classification	Corrosive

Skin Sensitisation

Name	Species	Value
Toluene	Guinea pig	Not classified
Pentyl acetate	Human	Not classified
Synthetic Amorphous Silica, Fumed, Crystalline Free	Human and animal	Not classified
2-Methylbutyl Acetate	Human	Not classified
Salicylic acid	Mouse	Not classified
Zinc Oxide	Guinea pig	Not classified
Titanium dioxide	Human and animal	Not classified
Ethylbenzene	Human	Not classified
Formaldehyde	Guinea pig	Sensitising

Photosensitisation

Name	Species	Value
Pentyl acetate	Human	Not sensitizing
2-Methylbutyl Acetate	Human	Not sensitizing

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Salicylic acid	Mouse	Not sensitizing
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Respiratory Sensitisation

Name	Species	Value
Formaldehyde	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Pentyl acetate	In Vitro	Not mutagenic
Synthetic Amorphous Silica, Fumed, Crystalline Free	In Vitro	Not mutagenic
2-Methylbutyl Acetate	In Vitro	Not mutagenic
Salicylic acid	In Vitro	Not mutagenic
Salicylic acid	In vivo	Not mutagenic
Zinc Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc Oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde	In vivo	Mutagenic

Carcinogenicity

Name	Route	Species	Value
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
Synthetic Amorphous Silica, Fumed, Crystalline Free	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
Formaldehyde	Not specified.	Human and animal	Carcinogenic.

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
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	during gestation

				mg/kg/day	
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
Pentyl acetate	Inhalation	Not classified for development	Rat	NOAEL 2.7 mg/l	during organogenesis
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic Amorphous Silica, Fumed, Crystalline Free	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
2-Methylbutyl Acetate	Inhalation	Not classified for development	Rat	NOAEL 2.7 mg/l	during organogenesis
Salicylic acid	Ingestion	Toxic to development	Rat	NOAEL 75 mg/kg/day	during organogenesis
Zinc Oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	prematuring & during gestation
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	prematuring & during gestation
Formaldehyde	Ingestion	Not classified for male reproduction	Rat	NOAEL 100 mg/kg	not applicable
Formaldehyde	Inhalation	Not classified for development	Rat	NOAEL 10 ppm	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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
Pentyl acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Pentyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL not available	
Pentyl acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
2-Methylbutyl Acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

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2-Methylbutyl Acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
2-Methylbutyl Acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Formaldehyde	Inhalation	respiratory system	Causes damage to organs	Rat	LOAEL 128 ppm	6 hours
Formaldehyde	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Toluene	Inhalation	auditory system nervous system eyes olfactory system	Causes 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

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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
Synthetic Amorphous Silica, Fumed, Crystalline Free	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Salicylic acid	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	3 days
Zinc Oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc Oxide	Ingestion	endocrine system hematopoietic system kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart immune system respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Formaldehyde	Dermal	respiratory system	Not classified	Mouse	NOAEL 80 mg/kg/day	60 weeks
Formaldehyde	Inhalation	respiratory system	Causes damage to organs through prolonged or	Rat	NOAEL 0.3 ppm	28 months

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			repeated exposure			
Formaldehyde	Inhalation	liver	Not classified	Rat	NOAEL 20 ppm	13 weeks
Formaldehyde	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 15 ppm	3 weeks
Formaldehyde	Inhalation	nervous system	Not classified	Mouse	NOAEL 10 ppm	13 weeks
Formaldehyde	Inhalation	endocrine system immune system muscles kidney and/or bladder	Not classified	Rat	NOAEL 15 ppm	28 months
Formaldehyde	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 15 ppm	2 years
Formaldehyde	Inhalation	eyes vascular system	Not classified	Rat	NOAEL 14.3 ppm	2 years
Formaldehyde	Inhalation	heart	Not classified	Mouse	NOAEL 14.3 ppm	2 years
Formaldehyde	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	immune system	Not classified	Rat	NOAEL 20 mg/kg/day	4 weeks
Formaldehyde	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 15 mg/kg/day	24 months
Formaldehyde	Ingestion	nervous system	Not classified	Rat	NOAEL 109 mg/kg/day	2 years
Formaldehyde	Ingestion	heart endocrine system hematopoietic system respiratory system vascular system	Not classified	Rat	NOAEL 300 mg/kg/day	2 years
Formaldehyde	Ingestion	skin muscles eyes	Not classified	Rat	NOAEL 109 mg/kg/day	2 years

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Ethylbenzene	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:

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Green Algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Fish other	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Coho salmon	Experimental	40 days	NOEC	1.39 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
Acrylonitrile-Butadiene Polymer	9003-18-3		Data not available or insufficient for classification			
Formaldehyde, Polymer With 4-(1,1-Dimethylethyl) Phenol, Magnesium Oxide Complex	68037-42-3		Data not available or insufficient for classification			
Pentyl acetate	628-63-7	Goldfish	Experimental	96 hours	LC50	10 mg/l
Pentyl acetate	628-63-7	Green Algae	Estimated	72 hours	EC50	>466 mg/l
Pentyl acetate	628-63-7	Water flea	Estimated	48 hours	EC50	40.9 mg/l
Pentyl acetate	628-63-7	Green algae	Estimated	72 hours	NOEC	129 mg/l
2-Methylbutyl Acetate	624-41-9	Green Algae	Estimated	72 hours	EC50	>466 mg/l
2-Methylbutyl Acetate	624-41-9	Goldfish	Estimated	96 hours	LC50	10 mg/l
2-Methylbutyl Acetate	624-41-9	Water flea	Estimated	48 hours	EC50	40.9 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Water flea	Experimental	24 hours	EC50	>100 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Green Algae	Experimental	72 hours	NOEC	60 mg/l

Salicylic acid	69-72-7	Water flea	Experimental	48 hours	EC50	870 mg/l
Salicylic acid	69-72-7	Ricefish	Experimental	96 hours	LC50	>100 mg/l
Salicylic acid	69-72-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Zinc Oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc Oxide	1314-13-2	Crustacea other	Experimental	24 hours	LC50	0.24 mg/l
Zinc Oxide	1314-13-2	Green Algae	Experimental	72 hours	EC50	0.057 mg/l
Zinc Oxide	1314-13-2	Crustacea other	Estimated	24 days	NOEC	0.007 mg/l
Zinc Oxide	1314-13-2	Rainbow trout	Estimated	30 days	NOEC	0.049 mg/l
Zinc Oxide	1314-13-2	Algae or other aquatic plants	Estimated	96 hours	Effect Concentration 10%	0.026 mg/l
Ethylbenzene	100-41-4	Atlantic Silverside	Experimental	96 hours	LC50	5.1 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Experimental	96 hours	LC50	4.2 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	48 hours	EC50	1.8 mg/l
Ethylbenzene	100-41-4	Green Algae	Experimental	96 hours	EC50	3.6 mg/l
Ethylbenzene	100-41-4	Mysid Shrimp	Experimental	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	7 days	NOEC	0.96 mg/l
Benzene	71-43-2	Green Algae	Experimental	72 hours	EC50	29 mg/l
Benzene	71-43-2	Water flea	Experimental	48 hours	EC50	9.23 mg/l
Benzene	71-43-2	Rainbow trout	Experimental	96 hours	LC50	5.3 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	Effect Concentration 10%	34 mg/l
Benzene	71-43-2	Water flea	Experimental	7 days	NOEC	3 mg/l
Formaldehyde	50-00-0	Water flea	Experimental	48 hours	EC50	5.8 mg/l
Formaldehyde	50-00-0	Green algae	Experimental	72 hours	EC50	4.89 mg/l
Formaldehyde	50-00-0	Fish other	Experimental	96 hours	LC50	6.7 mg/l
Formaldehyde	50-00-0	Water flea	Experimental	21 days	NOEC	>=6.4 mg/l
Formaldehyde	50-00-0	Ricefish	Experimental	28 days	NOEC	>=48 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	Other methods
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 % weight	
Acrylonitrile-Butadiene Polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde,	68037-42-3	Data not	N/A	N/A	N/A	N/A

Polymer With 4-(1,1-Dimethylethyl) Phenol, Magnesium Oxide Complex		available or insufficient for classification				
Pentyl acetate	628-63-7	Estimated Biodegradation	20 days	BOD	72 % weight	Other methods
2-Methylbutyl Acetate	624-41-9	Estimated Biodegradation	28 days	BOD	69 % BOD/ThBOD	OECD 301C - MITI test (I)
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Salicylic acid	69-72-7	Experimental Biodegradation	14 days	BOD	88.1 % weight	OECD 301C - MITI test (I)
Titanium dioxide	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Zinc Oxide	1314-13-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Experimental Biodegradation	28 days	CO2 evolution	70-80 % weight	Other methods
Ethylbenzene	100-41-4	Experimental Photolysis		Photolytic half-life (in air)	4.26 days (t 1/2)	Other methods
Benzene	71-43-2	Experimental Photolysis		Photolytic half-life (in air)	26 days (t 1/2)	Other methods
Benzene	71-43-2	Experimental Biodegradation	28 days	BOD	63 % weight	OECD 301F - Manometric respirometry
Formaldehyde	50-00-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 % weight	OECD 301A - DOC Die Away Test
Formaldehyde	50-00-0	Experimental Photolysis		Photolytic half-life(in water)	1-2 hours (t 1/2)	Other methods

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	Other methods
Acrylonitrile-Butadiene Polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde, Polymer With 4-(1,1-Dimethylethyl) Phenol,	68037-42-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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Magnesium Oxide Complex						
Pentyl acetate	628-63-7	Experimental Bioconcentration		Log Kow	2.3	Other methods
2-Methylbutyl Acetate	624-41-9	Estimated Bioconcentration		Bioaccumulation factor	3.8	Estimated: Bioconcentration factor
Synthetic Amorphous Silica, Fumed, Crystalline Free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Salicylic acid	69-72-7	Experimental Bioconcentration		Log Kow	2.26	Other methods
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Zinc Oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
Ethylbenzene	100-41-4	Experimental BCF - Other	42 days	Bioaccumulation factor	1	Other methods
Benzene	71-43-2	Experimental Bioconcentration		Log Kow	2.13	Other methods
Formaldehyde	50-00-0	Experimental Bioconcentration		Log Kow	0.35	Other methods

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. 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.: UN1866

Proper shipping name: RESIN SOLUTION

Class/Division: 3

Sub Risk: Not applicable.

Packing Group: II

Hazchem Code: •3YE

IERG: 14

International Air Transport Association (IATA) - Air Transport

UN No.: UN1866

Proper shipping name: RESIN SOLUTION

Class/Division: 3

Sub Risk: Not applicable.

Packing Group: II

International Maritime Dangerous Goods Code (IMDG)- Marine Transport

UN No.: UN1866

Proper shipping name: RESIN SOLUTION

Class/Division: 3

Sub Risk: Not applicable.

Packing Group: II

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 has not been assessed for poisons scheduling as the product is intended for industrial and professional use only.

SECTION 16: Other information

Revision information:

Update to product identification numbers.

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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