



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

SECTION 1: Identification

1.1. Product identifier

3M Scotch-Weld(TM) Universal Adhesive 847

Product Identification Numbers

FS-9100-0633-7

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

Address: 3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128
Telephone: 011 806 2000
E Mail: Not available.
Website: www.3m.co.za

1.4. Emergency telephone number

011 806 2000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2A
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 3.
Acute Aquatic Toxicity: Category 2.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

DANGER!

Symbols

Flame | Exclamation mark | Health Hazard | Environment |

Pictograms**HAZARD STATEMENTS:**

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS**Prevention:**

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

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.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Disposal:

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

Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Acetone	67-64-1	60 - 70
Acrylonitrile - butadiene polymer	9003-18-3	10 - 20
Resin acids and rosin acids, esters with glycerol	8050-31-5	5 - 10
Phenol-formaldehyde resin	Trade Secret	1 - 10
Salicylic acid	69-72-7	< 3
Zinc oxide	1314-13-2	< 2.5
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	< 0.5
p-Tert-Butylphenol	98-54-4	< 0.5

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

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Ketones.	During combustion.
Oxides of nitrogen.	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.

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 vapors 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

For industrial/occupational use only. Not for consumer sale or use. 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. Avoid breathing 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 vapor 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 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
Zinc oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m ³ ;STEL(respirable fraction):10 mg/m ³	
Zinc oxide	1314-13-2	South Africa RELs	TWA(as fume)(8 hours):5 mg/m ³ ;STEL(as fume)(15 minutes):10 mg/m ³	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	South Africa RELs	TWA(8 hours):1780 mg/m ³ (750 ppm);STEL(15 minutes):3560 mg/m ³ (1500 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

South Africa CLs : South Africa. Control Limits. Regulations for Hazardous Chemical Substances, Table 1

South Africa RELs : South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

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: Butyl rubber.

Polymer laminate

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous.
Colour	Brown
Odor	Acetone
Odour threshold	<i>No data available.</i>
pH	<i>No data available.</i>
Melting point/Freezing point	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	55,8 - 56,6 °C [<i>Details: Acetone value</i>]
Flash point	-17 °C [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.

Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Density	<i>No data available.</i>
Relative density	0,87 - 0,9 [Ref Std: WATER=1]
Water solubility	Slight (less than 10%)
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	1 500 - 3 200 mPa-s [@ 25 °C]
Volatile organic compounds (VOC)	580 g/l
Percent volatile	± 65 % weight
VOC less H2O & exempt solvents	<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 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

Sparks and/or flames.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

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

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

Contact with the skin during product use is not expected to result in significant irritation.

Prolonged or repeated exposure may cause:

Dermal Defatting: Signs/symptoms may include localised redness, itching, drying and cracking of skin.

Allergic Skin Reaction (non-photo induced) in sensitive people: 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.

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	Ingestion		No data available; calculated ATE >5 000 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15 688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5 800 mg/kg
Acrylonitrile - butadiene polymer	Dermal	Rabbit	LD50 > 15 000 mg/kg
Acrylonitrile - butadiene polymer	Ingestion	Rat	LD50 > 30 000 mg/kg
Resin acids and rosin acids, esters with glycerol	Dermal	Rabbit	LD50 > 5 000 mg/kg
Resin acids and rosin acids, esters with glycerol	Ingestion	Rat	LD50 > 2 000 mg/kg
Phenol-formaldehyde resin	Dermal		LD50 estimated to be > 5 000 mg/kg
Phenol-formaldehyde resin	Ingestion	Rat	LD50 5 660 mg/kg
Salicylic acid	Dermal	Rat	LD50 > 2 000 mg/kg
Salicylic acid	Ingestion	Rat	LD50 891 mg/kg
Zinc oxide	Dermal		LD50 estimated to be > 5 000 mg/kg
Zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5,7 mg/l
Zinc oxide	Ingestion	Rat	LD50 > 5 000 mg/kg
p-Tert-Butylphenol	Dermal	Rabbit	LD50 2 318 mg/kg
p-Tert-Butylphenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5,6 mg/l
p-Tert-Butylphenol	Ingestion	Rat	LD50 4 000 mg/kg

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Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Dermal	Rat	LD50 > 2 000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Ingestion	Rat	LD50 > 5 000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Acetone	Mouse	Minimal irritation
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Resin acids and rosin acids, esters with glycerol	Rabbit	Minimal irritation
Salicylic acid	Rabbit	No significant irritation
Zinc oxide	Human and animal	No significant irritation
p-Tert-Butylphenol	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Acetone	Rabbit	Severe irritant
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Resin acids and rosin acids, esters with glycerol	Rabbit	Mild irritant
Salicylic acid	Rabbit	Corrosive
Zinc oxide	Rabbit	Mild irritant
p-Tert-Butylphenol	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Resin acids and rosin acids, esters with glycerol	Guinea pig	Not classified
Phenol-formaldehyde resin	Human	Some positive data exist, but the data are not sufficient for classification
Salicylic acid	Mouse	Not classified
Zinc oxide	Guinea pig	Not classified
p-Tert-Butylphenol	Human and animal	Not classified

Photosensitisation

Name	Species	Value
Salicylic acid	Mouse	Not sensitizing

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

Resin acids and rosin acids, esters with glycerol	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
p-Tert-Butylphenol	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Acetone	Not specified.	Multiple animal species	Not carcinogenic
p-Tert-Butylphenol	Ingestion	Multiple animal species	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
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
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
p-Tert-Butylphenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	Not classified for development	Rat	NOAEL 70 mg/kg/day	2 generation

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
p-Tert-Butylphenol	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5,6 mg/l	4 hours

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
Resin acids and rosin acids, esters with glycerol	Ingestion	liver heart skin endocrine system bone, teeth, nails, and/or hair blood bone marrow hematopoietic system immune system muscles nervous system eyes kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 5 000 mg/kg/day	90 days
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
p-Tert-Butylphenol	Ingestion	endocrine system liver kidney and/or bladder	Not classified	Rat	NOAEL 600 mg/kg/day	2 generation
p-Tert-Butylphenol	Ingestion	blood	Not classified	Rat	NOAEL 200 mg/kg	6 weeks

Aspiration Hazard

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

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

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in

Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
Acetone	67-64-1	Algae other	Experimental	96 hours	EC50	11 493 mg/l
Acetone	67-64-1	Crustacea other	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
Acrylonitrile - butadiene polymer	9003-18-3		Data not available or insufficient for classification			
Resin acids and rosin acids, esters with glycerol	8050-31-5	Fathead minnow	Estimated	96 hours	Lethal Level 50%	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Green Algae	Estimated	72 hours	Effect Level 50%	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Water flea	Estimated	48 hours	Effect Level 50%	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Green Algae	Estimated	72 hours	No obs Effect Level	>100 mg/l
Phenol-formaldehyde resin	Trade Secret		Data not available or insufficient for classification			
Salicylic acid	69-72-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Salicylic acid	69-72-7	Ricefish	Experimental	96 hours	LC50	>100 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	48 hours	EC50	870 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	21 days	NOEC	10 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	Algae or other aquatic plants	Estimated	96 hours	Effect Concentration 10%	0,026 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

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	24 hours	EC50	0,82 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Zebra Fish	Experimental	96 hours	LC50	>71 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Green algae	Experimental	72 hours	NOEC	>10 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	21 days	Effect Concentration 10%	1,69 mg/l
p-Tert-Butylphenol	98-54-4	Crustacea other	Experimental	96 hours	LC50	1,9 mg/l
p-Tert-Butylphenol	98-54-4	Green Algae	Experimental	72 hours	EC50	14 mg/l
p-Tert-Butylphenol	98-54-4	Ricefish	Experimental	96 hours	LC50	5,1 mg/l
p-Tert-Butylphenol	98-54-4	Water flea	Experimental	48 hours	EC50	3,9 mg/l
p-Tert-Butylphenol	98-54-4	Fathead minnow	Experimental	128 days	NOEC	0,01 mg/l
p-Tert-Butylphenol	98-54-4	Green Algae	Experimental	72 hours	NOEC	0,32 mg/l
p-Tert-Butylphenol	98-54-4	Water flea	Experimental	21 days	NOEC	0,73 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	Other methods

Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 % weight	OECD 301D - Closed bottle test
Acrylonitrile - butadiene polymer	9003-18-3	Data not available - insufficient			N/A	
Resin acids and rosin acids, esters with glycerol	8050-31-5	Experimental Biodegradation	28 days	CO2 evolution	0 % weight	OECD 301B - Modified sturm or CO2
Phenol-formaldehyde resin	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THC O2 evolution	
Salicylic acid	69-72-7	Experimental Biodegradation	14 days	BOD	88.1 % BOD/ThBOD	OECD 301C - MITI test (I)
Zinc oxide	1314-13-2	Data not available - insufficient			N/A	
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Experimental Biodegradation	28 days	CO2 evolution	<=1 % weight	OECD 301B - Modified sturm or CO2
p-Tert-Butylphenol	98-54-4	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	98 % weight	Other methods

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	Other methods
Acrylonitrile - butadiene polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Resin acids and rosin acids, esters with glycerol	8050-31-5	Experimental Bioconcentration		Log Kow	<1.5	Other methods
Phenol-formaldehyde resin	Trade Secret	Estimated Bioconcentration		Bioaccumulation factor	7.4	Other methods
Salicylic acid	69-72-7	Experimental Bioconcentration		Log Kow	2.26	Other methods
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
Benzenamine, N-phenyl-, reaction products with	68411-46-1	Estimated BCF-Carp	42 days	Bioaccumulation factor	1730	Other methods

2,4,4-trimethylpentene						
p-Tert-Butylphenol	98-54-4	Experimental BCF-Carp	56 days	Bioaccumulation factor	88	OECD 305E - Bioaccumulation flow-through fish test

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

Material	CAS Nbr	Ozone Depletion Potential	Global Warming Potential
acetone	67-64-1	0	

SECTION 13: Disposal considerations

13.1. Disposal methods

Product must only be disposed of by an authorized/permitted waste disposal contractor or incinerated in an industrial or commercial facility in the presence of a combustible material.

SECTION 14: Transport Information

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information.

SECTION 16: Other information

Revision information:

Section 2: Hazard - Other information was modified.

Label: GHS Precautionary - Storage information was deleted.

Section 8: Personal Protection - Skin/hand information information was modified.

Section 8: Skin protection - recommended gloves information information was modified.

Section 09: Color information was added.

Section 09: Odor information was added.

Sections 3 and 9: Odour, colour, grade information information was deleted.

Section 11: Acute Toxicity table information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Bioaccumulative potential information information was modified.

Section 16: UK disclaimer information was deleted.

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3M South Africa SDSs are available at www.3m.co.za