



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier

3M Fastbond 1074 Spray Adhesive

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

Address: 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Aerosol: Category 2.

Skin Sensitizer: Category 1.

2.2. Label elements

SIGNAL WORD

WARNING!

Symbols

Flame | Exclamation mark |

Pictograms



HAZARD STATEMENTS

H223	Flammable aerosol.
H229	Pressurized container: may burst if heated.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS**Prevention:**

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.
P280E	Wear protective gloves.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical attention.
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Storage:

P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
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2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	40 - 50
Polymer	None	40 - 50
Ethanol	64-17-5	3 - 7
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]tridecyl]oxy]-, ammonium salt (1:1)	224646-44-0	< 1.5
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]undecyl]oxy]-, ammonium salt (1:1)	352661-91-7	< 1.5
2-Bromo-2-nitro-1,3-propanediol	52-51-7	< 0.1
5-chloro-2-methyl-4-isothiazoline-3-one	26172-55-4	< 0.002
2-Methyl-4-isothiazoline-3-one	2682-20-4	< 0.001

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

Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

If swallowed

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

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

Allergic skin reaction (redness, swelling, blistering, and itching).

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 ordinary combustible material such as water or foam 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.

Irritant vapours or gases.

Oxides of nitrogen.

Condition

During combustion.

During combustion.

During combustion.

During combustion.

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions

For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. 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 closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. 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

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. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from heat.

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
Ethanol	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.
Ethanol	64-17-5	Singapore PELs	TWA(8 hours):1880 mg/m3(1000 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

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.

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:

Safety glasses with side shields.

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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Aerosol
Color	White
Odor	Acrylate
Odour threshold	<i>No data available.</i>
pH	4
Melting point/Freezing point	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	100 °C
Flash point	No flash point
Evaporation rate	<i>No data available.</i>
Flammability	Flammable Aerosol: Category 2.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Relative Vapor Density	<i>No data available.</i>
Density	1 g/ml
Relative density	1 [Ref Std:WATER=1]
Water solubility	Moderate
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>
Kinematic Viscosity	<i>No data available.</i>
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H2O & exempt solvents	<i>No data available.</i>

Particle Characteristics	<i>Not applicable.</i>
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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.

10.5 Incompatible materials

Not determined

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

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.

Skin contact

Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

Ingestion

No known health effects.

Additional information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

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
Ethanol	Dermal	Rabbit	LD50 > 15,800 mg/kg
Ethanol	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
Ethanol	Ingestion	Rat	LD50 17,800 mg/kg
2-Bromo-2-nitro-1,3-propanediol	Dermal	Rat	LD50 > 2,000 mg/kg
2-Bromo-2-nitro-1,3-propanediol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.588 mg/l
2-Bromo-2-nitro-1,3-propanediol	Ingestion	Rat	LD50 193 mg/kg
5-chloro-2-methyl-4-isothiazoline-3-one	Dermal	Rabbit	LD50 87 mg/kg
5-chloro-2-methyl-4-isothiazoline-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.171 mg/l
5-chloro-2-methyl-4-isothiazoline-3-one	Ingestion	Rat	LD50 40 mg/kg
2-Methyl-4-isothiazoline-3-one	Dermal	Rabbit	LD50 87 mg/kg
2-Methyl-4-isothiazoline-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.171 mg/l
2-Methyl-4-isothiazoline-3-one	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ethanol	Rabbit	No significant irritation
2-Bromo-2-nitro-1,3-propanediol	Rabbit	Corrosive
5-chloro-2-methyl-4-isothiazoline-3-one	Rabbit	Corrosive
2-Methyl-4-isothiazoline-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Ethanol	Rabbit	Severe irritant
2-Bromo-2-nitro-1,3-propanediol	Rabbit	Corrosive
5-chloro-2-methyl-4-isothiazoline-3-one	Rabbit	Corrosive
2-Methyl-4-isothiazoline-3-one	Rabbit	Corrosive

Sensitization:**Skin Sensitisation**

Name	Species	Value
Ethanol	Human	Not classified
2-Bromo-2-nitro-1,3-propanediol	Guinea pig	Not classified
5-chloro-2-methyl-4-isothiazoline-3-one	Human and animal	Sensitising
2-Methyl-4-isothiazoline-3-one	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
5-chloro-2-methyl-4-isothiazoline-3-one	Human and	Not sensitizing

	animal	
2-Methyl-4-isothiazoline-3-one	Human and animal	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
Ethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethanol	In vivo	Some positive data exist, but the data are not sufficient for classification
2-Bromo-2-nitro-1,3-propanediol	In vivo	Not mutagenic
2-Bromo-2-nitro-1,3-propanediol	In Vitro	Some positive data exist, but the data are not sufficient for classification
5-chloro-2-methyl-4-isothiazoline-3-one	In vivo	Not mutagenic
5-chloro-2-methyl-4-isothiazoline-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Methyl-4-isothiazoline-3-one	In vivo	Not mutagenic
2-Methyl-4-isothiazoline-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
2-Bromo-2-nitro-1,3-propanediol	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
2-Bromo-2-nitro-1,3-propanediol	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
5-chloro-2-methyl-4-isothiazoline-3-one	Dermal	Mouse	Not carcinogenic
5-chloro-2-methyl-4-isothiazoline-3-one	Ingestion	Rat	Not carcinogenic
2-Methyl-4-isothiazoline-3-one	Dermal	Mouse	Not carcinogenic
2-Methyl-4-isothiazoline-3-one	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethanol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation
2-Bromo-2-nitro-1,3-propanediol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
2-Bromo-2-nitro-1,3-propanediol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
2-Bromo-2-nitro-1,3-propanediol	Ingestion	Not classified for development	Rabbit	NOAEL 10 mg/kg/day	during gestation
5-chloro-2-methyl-4-isothiazoline-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-chloro-2-methyl-4-isothiazoline-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-chloro-2-methyl-4-isothiazoline-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10	2 generation

				mg/kg/day	
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethanol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
Ethanol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
2-Bromo-2-nitro-1,3-propanediol	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available.	
5-chloro-2-methyl-4-isothiazoline-3-one	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
2-Methyl-4-isothiazoline-3-one	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethanol	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethanol	Inhalation	immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	heart	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	skin	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	endocrine system	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	gastrointestinal tract	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	liver	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	immune system	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	nervous system	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	eyes	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days
2-Bromo-2-nitro-1,3-propanediol	Dermal	kidney and/or bladder	Not classified	Rabbit	NOAEL 5 mg/kg/day	21 days

2-Bromo-2-nitro-1,3-propanediol	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	immune system	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	heart	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	endocrine system	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	liver	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	nervous system	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	eyes	Not classified	Rat	NOAEL 160 mg/kg/day	2 years
2-Bromo-2-nitro-1,3-propanediol	Ingestion	respiratory system	Not classified	Rat	NOAEL 160 mg/kg/day	2 years

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 3: Harmful to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Ethanol	64-17-5	Fathead minnow	Experimental	96 hours	LC50	14,200 mg/l
Ethanol	64-17-5	Fish	Experimental	96 hours	LC50	11,000 mg/l
Ethanol	64-17-5	Green algae	Experimental	72 hours	EC50	275 mg/l
Ethanol	64-17-5	Water flea	Experimental	48 hours	LC50	5,012 mg/l
Ethanol	64-17-5	Green algae	Experimental	72 hours	ErC10	11.5 mg/l
Ethanol	64-17-5	Water flea	Experimental	10 days	NOEC	9.6 mg/l
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]tridecyl]oxy]-, ammonium salt (1:1)	224646-44-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Poly(oxy-1,2-	352661-91-7	N/A	Data not available	N/A	N/A	N/A

ethanediyl), .alpha. -sulfo-.omega.-[[1- [(2-propen-1- yloxy)methyl]unde cyl]oxy]-, ammonium salt (1:1)			or insufficient for classification			
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Bluegill	Experimental	96 hours	LC50	11 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Diatom	Experimental	72 hours	ErC50	0.178 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Green algae	Experimental	96 hours	ErC50	0.02 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Mysid Shrimp	Experimental	96 hours	LC50	4.3 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Sheepshead Minnow	Experimental	96 hours	LC50	57.6 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Water flea	Experimental	48 hours	EC50	1.4 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Diatom	Experimental	72 hours	NOEC	0.052 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Green algae	Experimental	96 hours	NOEL	0.012 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Rainbow trout	Experimental	49 days	NOEC	1.94 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Water flea	Experimental	21 days	NOEC	0.27 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Activated sludge	Experimental	150 minutes	EC50	43 mg/l
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Bobwhite quail	Experimental	5 hours	LD50	4,488 mg/kg (Dry Weight)
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Redworm	Experimental	14 days	LC50	>500 mg/kg (Dry Weight)
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Redworm	Experimental	56 days	NOEC	62.5 mg/kg (Dry Weight)
2-Bromo-2-nitro- 1,3-propanediol	52-51-7	Soil microbes	Experimental	28 days	EC50	78.1 mg/kg (Dry Weight)
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Diatom	Experimental	72 hours	ErC50	0.007 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Green algae	Experimental	72 hours	ErC50	0.027 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Mysid Shrimp	Experimental	96 hours	LC50	0.282 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Sheepshead Minnow	Experimental	96 hours	LC50	0.3 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Water flea	Experimental	48 hours	EC50	0.16 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Diatom	Experimental	48 hours	NOEC	0.00049 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Fathead minnow	Experimental	36 days	NOEC	0.02 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Green algae	Experimental	72 hours	NOEC	0.004 mg/l
5-chloro-2-methyl- 4-isothiazoline-3- one	26172-55-4	Water flea	Experimental	21 days	NOEC	0.0111 mg/l
2-Methyl-4-	2682-20-4	Activated sludge	Experimental	3 hours	EC50	41 mg/l

isothiazoline-3-one						
2-Methyl-4-isothiazoline-3-one	2682-20-4	Diatom	Experimental	72 hours	ErC50	0.0199 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Green algae	Experimental	72 hours	ErC50	0.027 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Mysid Shrimp	Experimental	96 hours	LC50	0.282 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Sheepshead Minnow	Experimental	96 hours	LC50	0.3 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Water flea	Experimental	48 hours	EC50	0.16 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Diatom	Experimental	48 hours	NOEC	0.00049 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Fathead minnow	Experimental	36 days	NOEC	0.02 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Green algae	Experimental	72 hours	NOEC	0.004 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Water flea	Experimental	21 days	NOEC	0.0111 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 %BOD/ThOD	OECD 301C - MITI test (I)
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]tridecyl]oxy]-, ammonium salt (1:1)	224646-44-0	Data not available-insufficient	N/A	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]undecyl]oxy]-, ammonium salt (1:1)	352661-91-7	Data not available-insufficient	N/A	N/A	N/A	N/A
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Biodegradation	28 days	CO2 evolution	20 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Aquatic Inherent Biodegrad.	45 days	Dissolv. Organic Carbon Deplet	50 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Biodegradation	1 hours	Percent degraded	99 %degraded	OECD 314 Simu Biodeg WW
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Photolysis		Photolytic half-life(in water)	24 hours (t 1/2)	
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	2.4 hours (t 1/2)	OECD 111 Hydrolysis func of pH
5-chloro-2-methyl-4-isothiazoline-3-one	26172-55-4	Experimental Biodegradation	29 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
5-chloro-2-methyl-	26172-55-4	Modeled Photolysis		Photolytic half-life	1.2 days (t 1/2)	Episuite™

4-isothiazoline-3-one				(in air)		
5-chloro-2-methyl-4-isothiazoline-3-one	26172-55-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>60 days (t 1/2)	OECD 111 Hydrolysis func of pH
2-Methyl-4-isothiazoline-3-one	2682-20-4	Experimental Biodegradation	29 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
2-Methyl-4-isothiazoline-3-one	2682-20-4	Modeled Photolysis		Photolytic half-life (in air)	1.2 days (t 1/2)	Episuite™
2-Methyl-4-isothiazoline-3-one	2682-20-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>60 days (t 1/2)	OECD 111 Hydrolysis func of pH

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.35	
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]tridecyl]oxy]-, ammonium salt (1:1)	224646-44-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[[1-[(2-propen-1-yloxy)methyl]undecyl]oxy]-, ammonium salt (1:1)	352661-91-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Bromo-2-nitro-1,3-propanediol	52-51-7	Experimental Bioconcentration		Log Kow	0.15	OECD 107 log Kow shke flask mtd
5-chloro-2-methyl-4-isothiazoline-3-one	26172-55-4	Analogous Compound BCF - Fish	42 days	Bioaccumulation factor	54	OECD305-Bioconcentration
2-Methyl-4-isothiazoline-3-one	2682-20-4	Analogous Compound BCF - Fish	42 days	Bioaccumulation factor	54	OECD305-Bioconcentration

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

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

SECTION 14: Transport Information

International Regulations

UN No.: None assigned

UN Proper shipping name: None assigned

Transportation Class (IMO): None assigned

Transportation Class (IATA): None assigned

Other Dangerous Goods Descriptions (IMO): None assigned

Other Dangerous Goods Descriptions (IATA): None assigned

Packing Group: None assigned

Marine pollutant: None assigned

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. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this 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.

3M Singapore SDSs are available at www.3m.com.sg