



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier

3M(TM) Rapid Multi-Enzyme Cleaner (RMEC) 70500-D & 70500-B

Product Identification Numbers

AH-0105-8299-9 AH-1000-1721-1

1.2. Recommended use and restrictions on use

Recommended use

Product concentrate to be diluted prior to use for cleaning medical, surgical and dental instruments via manual or automated cleaning systems.

For Professional use only

1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996, the Hazardous Substances (Classification) Notice 2017 and Hazardous Substances (Minimum Degrees of Hazard) Notice 2017.

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

2.1. Classification of the substance or mixture

GHS	HSNO
Flammable Liquid: Category 4	3.1D Flammable Liquid
Serious Eye Damage/Irritation: Category 2	6.4A Irritating to the eye
Skin Corrosion/Irritation: Category 2	6.3A Irritating to the skin

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Respiratory Sensitiser: Category 1	6.5A Respiratory sensitiser
Skin Sensitiser: Category 1	6.5B Skin sensitiser
Reproductive Toxicity: Category 1B	6.8A Known/presumed human reproductive/developmental toxicant
Carcinogenicity: Category 1	6.7A Known/presumed human carcinogen
Specific Target Organ Toxicity (single exposure): Category 1	6.9A Toxic to human target organs/systems
Acute Aquatic Toxicity: Category 2	9.1D Aquatic toxicity (acute)
Chronic Aquatic Toxicity: Category 3	9.1C Aquatic toxicity (chronic)

2.2. Label elements**SIGNAL WORD**

DANGER!

Symbols:

Health Hazard |

Pictograms**HAZARD STATEMENTS:**

H227	Combustible liquid.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H360	May damage fertility or the unborn child.
H350	May cause cancer.
H370	Causes damage to organs: cardiovascular system nervous system kidney/urinary tract respiratory system
H401	Toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS**Prevention:**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280A	Wear eye/face protection.
P280B	Wear protective gloves and eye/face protection.
P284A	In case of inadequate ventilation wear respiratory protection.

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P280E Wear protective gloves.
 P270 Do not eat, drink or smoke when using this product.
 P264B Wash exposed skin thoroughly after handling.
 P272A Contaminated work clothing must not be allowed out of the workplace.

Response:

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 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.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P332 + P313 If skin irritation occurs: Get medical advice/attention.
 P333 + P313 If skin irritation or rash 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.
 P321 Specific treatment (see Notes to Physician on this label).
 P370 + P378G In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.

Storage:

P403 Store in a well-ventilated place.
 P405 Store locked up.

Disposal:

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

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Water	Trade Secret	45 - 55
Alcohols, C12-14, ethoxylated propoxylated	68439-51-0	10 - 30
Dipropylene glycol methyl ether	34590-94-8	5 - 15
Benzenesulfonic acid, C10-16-alkyl derivs.	68584-22-5	7 - 13
Ethylene glycol	107-21-1	1 - 10
Propane-1,2-diol	Trade Secret	1 - 10
Borax	1303-96-4	1 - 5
Glycerol	Trade Secret	1 - 5
Protease Protein Enzyme	9014-01-1	0.5 - 1.5
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	< 0.1

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

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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.

A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

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

This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

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>
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	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.

5.4. Hazchem code: Not applicable.

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. 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. 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 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

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling

Avoid skin contact with hot material. For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Protect from sunlight. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidising agents.

7.3. Certified handler

Not required

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
Ethylene glycol	107-21-1	ACGIH	TWA(Vapor fraction):25 ppm;STEL(Inhalable aerosol):10 mg/m3;STEL(Vapor fraction):50 ppm	A4: Not class. as human carcinogen
Ethylene glycol	107-21-1	New Zealand WES	CEIL(Vapor and mist):127 mg/m3(50 ppm)	
Borax	1303-96-4	ACGIH	TWA(inhalable fraction):2 mg/m3;STEL(inhalable fraction):6 mg/m3	A4: Not class. as human carcinogen
Borax	1303-96-4	New Zealand WES	TWA(8 hours):5 mg/m3	
Dipropylene glycol methyl ether	34590-94-8	ACGIH	TWA:100 ppm;STEL:150 ppm	Skin
Dipropylene glycol methyl ether	34590-94-8	New Zealand WES	TWA(8 hours): 606 mg/m3 (100 ppm); STEL(15 minutes): 909 mg/m3 (150 ppm)	Skin
Protease Protein Enzyme	9014-01-1	ACGIH	CEIL (as pure crystalline enzyme): 0.00006 mg/m3	

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Protease Protein Enzyme	9014-01-1	New Zealand WES	CEIL (as pure crystalline enzyme): 0.00006 mg/m ³	Skin
Glycerol	Trade Secret	New Zealand WES	TWA(as mist)(8 hours):10 mg/m ³	
Propane-1,2-diol	Trade Secret	AIHA	TWA(as aerosol):10 mg/m ³	
Propane-1,2-diol	Trade Secret	New Zealand WES	TWA(as particulate)(8 hours): 10 mg/m ³ ; TWA(Vapor and particulates)(8 hours): 474 mg/m ³ (150 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
New Zealand WES : New Zealand Workplace Exposure Standards.
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
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:

Full face shield.

Indirect vented goggles.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

Skin/hand protection

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

Gloves made from the following material(s) are recommended: Polymer laminate

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

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 supplied-air respirator.

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

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Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

Thermal hazards

Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Citrus Odour Clear To Slightly Turbid Light Fluorescent Green.
Odour threshold	No data available.
pH	6.5 - 6.9 [Details:Neat @ 25 degrees C]
Melting point/Freezing point	No data available.
Boiling point/Initial boiling point/Boiling range	No data available.
Flash point	75 °C [Test Method:Pensky-Martens Closed Cup] [Details:Greater than 75C self extinguishing]
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	No data available.
Flammable Limits(UEL)	No data available.
Vapour pressure	No data available.
Vapour density	No data available.
Density	No data available.
Relative density	1 - 1.1 [Ref Std:WATER=1]
Water solubility	No data available.
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	No data available.
Autoignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Percent volatile	No data available.
VOC less H2O & exempt solvents	No data available.

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.

Light.

10.5 Incompatible materials

Strong acids.

Strong bases.

Strong oxidising agents.

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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin contact

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure. Kidney/Bladder

effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

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.

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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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Dipropylene glycol methyl ether	Dermal	Rabbit	LD50 > 19,000 mg/kg
Dipropylene glycol methyl ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Dipropylene glycol methyl ether	Ingestion	Rat	LD50 5,180 mg/kg
Benzenesulfonic acid, C10-16-alkyl derivs.	Dermal	Rabbit	LD50 2,000 mg/kg
Benzenesulfonic acid, C10-16-alkyl derivs.	Ingestion	Rat	LD50 775 mg/kg
Ethylene glycol	Ingestion	Human	LD50 1,600 mg/kg
Ethylene glycol	Inhalation-Dust/Mist (4 hours)	Other	LC50 estimated to be 5 - 12.5 mg/l
Ethylene glycol	Dermal	Rabbit	9,530 mg/kg
Propane-1,2-diol	Dermal	Rabbit	LD50 20,800 mg/kg
Propane-1,2-diol	Ingestion	Rat	LD50 22,000 mg/kg
Borax	Dermal	Rabbit	LD50 > 10,000 mg/kg
Borax	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2 mg/l
Borax	Ingestion	Rat	LD50 4,500 mg/kg
Glycerol	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg
Glycerol	Ingestion	Rat	LD50 > 5,000 mg/kg
Protease Protein Enzyme	Dermal		estimated to be > 5,000 mg/kg
Protease Protein Enzyme	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
Protease Protein Enzyme	Ingestion		estimated to be > 5,000 mg/kg
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Rabbit	LD50 87 mg/kg
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Dipropylene glycol methyl ether	Human and animal	No significant irritation
Ethylene glycol	Rabbit	Minimal irritation
Propane-1,2-diol	Rabbit	No significant irritation
Glycerol	Rabbit	No significant irritation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Dipropylene glycol methyl ether	Rabbit	Mild irritant
Ethylene glycol	Rabbit	Mild irritant

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Propane-1,2-diol	Rabbit	No significant irritation
Glycerol	Rabbit	No significant irritation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Dipropylene glycol methyl ether	Human	Not classified
Ethylene glycol	Human	Not classified
Propane-1,2-diol	Human	Not classified
Glycerol	Guinea pig	Not classified
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-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
Dipropylene glycol methyl ether	In Vitro	Not mutagenic
Ethylene glycol	In Vitro	Not mutagenic
Ethylene glycol	In vivo	Not mutagenic
Propane-1,2-diol	In Vitro	Not mutagenic
Propane-1,2-diol	In vivo	Not mutagenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In vivo	Not mutagenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Ethylene glycol	Ingestion	Multiple animal species	Not carcinogenic
Propane-1,2-diol	Dermal	Mouse	Not carcinogenic
Propane-1,2-diol	Ingestion	Multiple animal species	Not carcinogenic
Glycerol	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Dermal	Mouse	Not carcinogenic
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Rat	Not carcinogenic

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

Name	Route	Value	Species	Test result	Exposure Duration
Dipropylene glycol methyl ether	Inhalation	Not classified for development	Multiple	NOAEL 1.82	during

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			animal species	mg/l	organogenesis
Ethylene glycol	Dermal	Not classified for development	Mouse	NOAEL 3,549 mg/kg/day	during organogenesis
Ethylene glycol	Ingestion	Not classified for development	Mouse	LOAEL 750 mg/kg/day	during organogenesis
Ethylene glycol	Inhalation	Not classified for development	Mouse	NOAEL 1,000 mg/kg/day	during organogenesis
Propane-1,2-diol	Ingestion	Not classified for female reproduction	Mouse	NOAEL 10,100 mg/kg/day	2 generation
Propane-1,2-diol	Ingestion	Not classified for male reproduction	Mouse	NOAEL 10,100 mg/kg/day	2 generation
Propane-1,2-diol	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,230 mg/kg/day	during organogenesis
Glycerol	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerol	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerol	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-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
Dipropylene glycol methyl ether	Dermal	central nervous system depression	Not classified	Rabbit	NOAEL 2,850 mg/kg	
Dipropylene glycol methyl ether	Inhalation	central nervous system depression	Not classified	Rat	LOAEL 3.07 mg/l	7 hours
Dipropylene glycol methyl ether	Ingestion	central nervous system depression	Not classified	Rat	LOAEL 5,000 mg/kg	
Ethylene glycol	Ingestion	heart nervous system kidney and/or bladder respiratory system	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Ethylene glycol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Ethylene glycol	Ingestion	liver	Not classified	Human	NOAEL Not available	poisoning and/or abuse
Propane-1,2-diol	Ingestion	central nervous system depression	Not classified	Human and animal	NOAEL Not available	
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

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Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Dipropylene glycol methyl ether	Dermal	kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
Dipropylene glycol methyl ether	Inhalation	heart hematopoietic system liver immune system nervous system eyes kidney and/or bladder	Not classified	Rat	NOAEL 1.21 mg/l	90 days
Dipropylene glycol methyl ether	Ingestion	liver heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Ethylene glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene glycol	Ingestion	vascular system	Not classified	Rat	NOAEL 200 mg/kg/day	2 years
Ethylene glycol	Ingestion	heart hematopoietic system liver immune system muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	respiratory system	Not classified	Mouse	NOAEL 12,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	skin endocrine system bone, teeth, nails, and/or hair nervous system eyes	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Propane-1,2-diol	Ingestion	hematopoietic system	Not classified	Multiple animal species	NOAEL 1,370 mg/kg/day	117 days
Propane-1,2-diol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 5,000 mg/kg/day	104 weeks
Glycerol	Inhalation	respiratory system heart liver kidney and/or bladder	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerol	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 10,000 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

3M(TM) Rapid Multi-Enzyme Cleaner (RMEC) 70500-D & 70500-B

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

Ecotoxic to the aquatic environment.

Acute Aquatic Toxicity: Category 2 (HSNO 9.1D Aquatic toxicity)

Chronic Aquatic Toxicity: Category 3 (HSNO 9.1C Aquatic toxicity)

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Alcohols, C12-14, ethoxylated propoxylated	68439-51-0		Data not available or insufficient for classification			
Dipropylene glycol methyl ether	34590-94-8	Water flea	Experimental	48 hours	LC50	1,919 mg/l
Dipropylene glycol methyl ether	34590-94-8	Fathead minnow	Experimental	96 hours	LC50	>10,000 mg/l
Dipropylene glycol methyl ether	34590-94-8	Green Algae	Experimental	72 hours	EC50	>969 mg/l
Dipropylene glycol methyl ether	34590-94-8	Green Algae	Experimental	72 hours	Effect Concentration 10%	133 mg/l
Benzenesulfonic acid, C10-16-alkyl derivs.	68584-22-5		Data not available or insufficient for classification			
Ethylene glycol	107-21-1	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Ethylene glycol	107-21-1	Water flea	Experimental	48 hours	EC50	>1,100 mg/l
Ethylene glycol	107-21-1	Fathead minnow	Experimental	96 hours	LC50	8,050 mg/l
Ethylene glycol	107-21-1	Water flea	Experimental	21 days	NOEC	100 mg/l
Ethylene glycol	107-21-1	Green Algae	Experimental	72 hours	NOEC	1,000 mg/l
Propane-1,2-diol	Trade Secret	Crustacea other	Experimental	96 hours	LC50	18,800 mg/l
Propane-1,2-diol	Trade Secret	Green Algae	Experimental	96 hours	EC50	19,000 mg/l
Propane-1,2-diol	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	40,613 mg/l
Propane-1,2-diol	Trade Secret	Water flea	Experimental	48 hours	EC50	18,340 mg/l
Propane-1,2-diol	Trade Secret	Green algae	Experimental	96 hours	NOEC	15,000 mg/l
Propane-1,2-diol	Trade Secret	Water flea	Experimental	7 days	NOEC	13,020 mg/l
Borax	1303-96-4	Green Algae	Estimated	72 hours	EC50	463 mg/l
Borax	1303-96-4	Zebra Fish	Estimated	96 hours	LC50	123 mg/l

3M(TM) Rapid Multi-Enzyme Cleaner (RMEC) 70500-D & 70500-B

Borax	1303-96-4	Coho Salmon	Experimental	96 hours	LC50	354 mg/l
Borax	1303-96-4	Water flea	Experimental	48 hours	EC50	1,248 mg/l
Borax	1303-96-4	Zebra Fish	Estimated	34 days	NOEC	49.6 mg/l
Borax	1303-96-4	Green Algae	Estimated	72 hours	NOEC	155 mg/l
Borax	1303-96-4	Water flea	Estimated	21 days	NOEC	53 mg/l
Glycerol	Trade Secret	Water flea	Experimental	48 hours	LC50	1,955 mg/l
Glycerol	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	54,000 mg/l
Protease Protein Enzyme	9014-01-1		Data not available or insufficient for classification			
Mixture of 5- chloro-2- methyl-2H- isothiazol-3- one and 2- methyl-2H- isothiazol-3- one	55965-84-9	Diatom	Experimental	72 hours	EC50	0.021 mg/l
Mixture of 5- chloro-2- methyl-2H- isothiazol-3- one and 2- methyl-2H- isothiazol-3- one	55965-84-9	Water flea	Experimental	48 hours	EC50	0.18 mg/l
Mixture of 5- chloro-2- methyl-2H- isothiazol-3- one and 2- methyl-2H- isothiazol-3- one	55965-84-9	Diatom	Experimental	72 hours	NOEC	0.01 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Alcohols, C12-14, ethoxylated propoxylated	68439-51-0	Data not available - insufficient			N/A	
Dipropylene glycol methyl ether	34590-94-8	Experimental Biodegradation	28 days	BOD	75 % BOD/ThBOD	OECD 301F - Manometric respirometry
Benzenesulfonic acid, C10-16-alkyl derivs.	68584-22-5	Experimental Biodegradation	28 days	CO2 evolution	80 % weight	OECD 301B - Modified sturm or CO2
Ethylene glycol	107-21-1	Experimental Biodegradation	14 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Propane-1,2-diol	Trade Secret	Experimental Biodegradation	28 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Borax	1303-96-4	Data not			N/A	

3M(TM) Rapid Multi-Enzyme Cleaner (RMEC) 70500-D & 70500-B

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Glycerol	Trade Secret	Experimental Biodegradation	14 days	BOD	63 % BOD/ThBOD	OECD 301C - MITI test (I)
Protease Protein Enzyme	9014-01-1	Experimental Biodegradation	28 days	BOD	65-80 % weight	OECD 301D - Closed bottle test
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Data not availbl-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Alcohols, C12-14, ethoxylated propoxylated	68439-51-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dipropylene glycol methyl ether	34590-94-8	Experimental Bioconcentration		Log Kow	0.0061	Other methods
Benzenesulfonic acid, C10-16-alkyl derivs.	68584-22-5	Experimental BCF - Bluegill	28 days	Bioaccumulation factor	94-220	Other methods
Ethylene glycol	107-21-1	Experimental Bioconcentration		Log Kow	-1.36	Other methods
Propane-1,2-diol	Trade Secret	Experimental Bioconcentration		Log Kow	-0.92	Other methods
Borax	1303-96-4	Experimental Bioconcentration		Log Kow	-1.53	Other methods
Glycerol	Trade Secret	Experimental Bioconcentration		Log Kow	-1.76	Other methods
Protease Protein Enzyme	9014-01-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Mixture of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one	55965-84-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Hazchem Code: Not applicable.

IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport

UN No.: Not applicable.

Proper Shipping Name: Not applicable.

Class/Division: Not applicable.

Sub Risk: Not applicable.

Packing Group: Not applicable.

Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number

HSR002525

Group standard name

Cleaning Products (Combustible) Group Standard 2017

3M(TM) Rapid Multi-Enzyme Cleaner (RMEC) 70500-D & 70500-B

HSNO Hazard classification Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Two required for 500 L
Emergency response plan	100 L (for a HSNO 9.1A substance); or 1,000 L (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L (for all other substances)
Secondary containment	100 L (for a HSNO 9.1A substance); or 1,000 L (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L (for all other substances)
Tracking	Not required
Warning signage	100 L (for a HSNO 9.1A substance); or 1,000 L (for a HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L (for all other substances)

SECTION 16: Other information**Revision information:**

Complete document review.

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Key to abbreviations and acronyms

GHS means the Globally Harmonised System of Classification and Labelling of Chemicals, 5th revised edition 2013

HSNO means Hazardous Substances and New Organisms Act 1996

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