Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier
3M 70500 Rapid Multi-Enzyme Cleaner

Product Identification Numbers
IA-4201-0003-3 IA-4201-0012-4

1.2. Recommended use and restrictions on use

Recommended use
Cleaner for Bioburden, Cleaning medical/surgical instruments and surfaces.

1.3. Supplier's details
Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture
Acute Toxicity (oral): Category 5.
Serious Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Acute Aquatic Toxicity: Category 3.

2.2. Label elements
Signal Word
DANGER!

Symbols
Health Hazard |

Pictograms

HAZARD STATEMENTS:

H303	May be harmful if swallowed.
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.
H370	Causes damage to organs: cardiovascular system nervous system kidney/urinary tract respiratory system
H402	Harmful to aquatic life.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P284A	In case of inadequate ventilation wear respiratory protection.
P280E	Wear protective gloves.

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P308 + P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician.

Disposal:

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

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 - 60
Surfactant	Trade Secret	10 - 20
(2-Methoxymethylethoxy)propanol	34590-94-8	5 - 15
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	1 - 10
Ethylene glycol	107-21-1	1 - 10
Glycerol	56-81-5	1 - 10
Disodium tetraborate decahydrate	1303-96-4	1 - 10
Propane-1,2-diol	57-55-6	< 5
1-dodecyl-2-pyrrolidone	2687-96-9	< 1
Amylase Enzyme	9000-90-2	< 1
4-Formylphenylboronic acid	87199-17-5	< 1
Protease Enzyme	9014-01-1	< 1
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	< 0.1
2-methyl-2H-isothiazol-3-one	2682-20-4	< 0.01
CELLULASE	Trade Secret	< 0.01
Lipase Enzyme	Trade Secret	< 0.01

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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
This product contains ethylene glycol. Effects of oral ethylene glycol poisoning can be divided into three stages which generally occur over a time-course of hours to days following ingestion: Stage 1 (neurological effects), stage2 (cardiopulmonary effects) and stage 3 (renal effects). If ethylene glycol poisoning is confirmed, intravenous (IV) administration of ethanol should be considered. Additional pharmacologic and supportive care should be based on the treating physician's judgement.

SECTION 5: Fire-fighting measures

5.1. Suitable Extinguishing media
Material will not burn.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	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. 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. 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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with 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
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. 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. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

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
(2-Methoxymethylethoxy)propanol		ACGIH	TWA:50 ppm;STEL:100 ppm	
Ethylene glycol		ACGIH	TWA(Vapor fraction):25	A4: Not class. as human

			ppm;STEL(Vapor fraction):50 ppm;STEL(Inhalable aerosol):10 mg/m3	carcin
Propane-1,2-diol		AIHA	TWA(as aerosol):10 mg/m3	
Protease Enzyme		ACGIH	CEIL(as pure cystalline enzyme):0.00006 mg/m3	
Disodium tetraborate decahydrate		ACGIH	TWA(inhalable fraction):2 mg/m3;STEL(inhalable fraction):6 mg/m3	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
No engineering controls required.

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.
Gloves made from the following material(s) are recommended: Butyl rubber.
Neoprene.
Nitrile rubber.

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 – Butyl rubber
Neoprene apron.
Apron – Nitrile

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.
Color	Fluorescent Green
Odor	Citrus
Odour threshold	*No data available.*
pH	6.9 - 7.2
Melting point/Freezing point: NA	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	99 ºC
Flash point	*No data available.*
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	186,158.4 Pa
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	1.03 - 1.06 g/ml
Relative density	1.03 - 1.05 [*Ref Std:*WATER=1]
Water solubility	Complete
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/Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	
Percent volatile	
VOC less H2O & exempt solvents	

Nanoparticles
This material does not contain nanoparticles.

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	**Condition**
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
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
May be harmful if swallowed.
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.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l

Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Surfactant	Dermal	Rabbit	LD50 4,600 mg/kg
Surfactant	Ingestion	Rat	LD50 2,500 mg/kg
(2-Methoxymethylethoxy)propanol	Dermal	Rabbit	LD50 > 19,000 mg/kg
(2-Methoxymethylethoxy)propanol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
(2-Methoxymethylethoxy)propanol	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
Glycerol	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg
Glycerol	Ingestion	Rat	LD50 > 5,000 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
Disodium tetraborate decahydrate	Dermal	Rabbit	LD50 > 10,000 mg/kg
Disodium tetraborate decahydrate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2 mg/l
Disodium tetraborate decahydrate	Ingestion	Rat	LD50 4,500 mg/kg
Propane-1,2-diol	Dermal	Rabbit	LD50 20,800 mg/kg
Propane-1,2-diol	Ingestion	Rat	LD50 22,000 mg/kg
Protease Enzyme	Dermal		estimated to be > 5,000 mg/kg
Protease Enzyme	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
Protease Enzyme	Ingestion		estimated to be > 5,000 mg/kg
4-Formylphenylboronic acid	Dermal		estimated to be > 5,000 mg/kg
4-Formylphenylboronic acid	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
4-Formylphenylboronic acid	Inhalation-Vapor		estimated to be > 50 mg/l
4-Formylphenylboronic acid	Ingestion		estimated to be > 5,000 mg/kg
1-dodecyl-2-pyrrolidone	Dermal		estimated to be > 5,000 mg/kg
1-dodecyl-2-pyrrolidone	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
1-dodecyl-2-pyrrolidone	Ingestion		estimated to be > 5,000 mg/kg
Amylase Enzyme	Dermal		estimated to be > 5,000 mg/kg
Amylase Enzyme	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
Amylase Enzyme	Ingestion		estimated to be > 5,000 mg/kg
5-chloro-2-methyl-2H-isothiazol-3-one	Dermal	Rabbit	LD50 87 mg/kg
5-chloro-2-methyl-2H-isothiazol-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg
2-methyl-2H-isothiazol-3-one	Dermal	Rabbit	LD50 87 mg/kg
2-methyl-2H-isothiazol-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.33 mg/l
2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg
CELLULASE	Dermal		estimated to be > 5,000 mg/kg
CELLULASE	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
CELLULASE	Ingestion		estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
(2-Methoxymethylethoxy)propanol	Human and	No significant irritation

	animal	
Glycerol	Rabbit	No significant irritation
Ethylene glycol	Rabbit	Minimal irritation
Propane-1,2-diol	Rabbit	No significant irritation
5-chloro-2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive
2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
(2-Methoxymethylethoxy)propanol	Rabbit	Mild irritant
Glycerol	Rabbit	No significant irritation
Ethylene glycol	Rabbit	Mild irritant
Propane-1,2-diol	Rabbit	No significant irritation
5-chloro-2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive
2-methyl-2H-isothiazol-3-one	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
(2-Methoxymethylethoxy)propanol	Human	Not classified
Glycerol	Guinea pig	Not classified
Ethylene glycol	Human	Not classified
Propane-1,2-diol	Human	Not classified
5-chloro-2-methyl-2H-isothiazol-3-one	Human and animal	Sensitising
2-methyl-2H-isothiazol-3-one	Human and animal	Sensitising

Photosensitisation

Name	Species	Value
5-chloro-2-methyl-2H-isothiazol-3-one	Human and animal	Not sensitizing
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
(2-Methoxymethylethoxy)propanol	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
5-chloro-2-methyl-2H-isothiazol-3-one	In vivo	Not mutagenic
5-chloro-2-methyl-2H-isothiazol-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-methyl-2H-isothiazol-3-one	In vivo	Not mutagenic
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
Glycerol	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
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
5-chloro-2-methyl-2H-isothiazol-3-one	Dermal	Mouse	Not carcinogenic
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Rat	Not carcinogenic
2-methyl-2H-isothiazol-3-one	Dermal	Mouse	Not carcinogenic
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
(2-Methoxymethylethoxy)propanol	Inhalation	Not classified for development	Multiple animal species	NOAEL 1.82 mg/l	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
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
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis
2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-methyl-2H-isothiazol-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
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
(2-Methoxymethylethoxy)propanol	Dermal	central nervous system depression	Not classified	Rabbit	NOAEL 2,850 mg/kg	
(2-Methoxymethylethoxy)propanol	Inhalation	central nervous system depression	Not classified	Rat	LOAEL 3.07 mg/l	7 hours
(2-Methoxymethylethoxy)propanol	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	
5-chloro-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	
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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
(2-Methoxymethylethoxy)propanol	Dermal	kidney and/or bladder | heart | endocrine system | hematopoietic system | liver | respiratory system	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	heart | hematopoietic system | liver | immune system | nervous system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	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
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
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	2 years

					mg/kg/day	
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

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
Surfactant	Trade Secret		Data not available or insufficient for classification			N/A
(2-Methoxymethylethoxy)propanol		Bacteria	Experimental	18 hours	EC10	4,168 mg/l
(2-Methoxymethylethoxy)propanol		Fathead minnow	Experimental	96 hours	LC50	>10,000 mg/l
(2-		Green Algae	Experimental	72 hours	EC50	>969 mg/l

Methoxymethylethoxy)propanol						
(2-Methoxymethylethoxy)propanol		Water flea	Experimental	48 hours	LC50	1,919 mg/l
(2-Methoxymethylethoxy)propanol		Green Algae	Experimental	72 hours	EC10	133 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Green algae	Analogous Compound	96 hours	EC50	36 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Rainbow trout	Experimental	96 hours	LC50	4.3 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Water flea	Experimental	48 hours	EC50	2.9 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Fathead minnow	Analogous Compound	28 days	NOEC	0.9 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Green algae	Analogous Compound	72 hours	NOEC	2.2 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Water flea	Analogous Compound	21 days	NOEC	0.3 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Activated sludge	Analogous Compound	3 hours	EC50	550 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Redworm	Analogous Compound	14 days	LC50	>1,000 mg/kg (Dry Weight)
Ethylene glycol		Bacteria	Experimental	16 hours	EC50	10,000 mg/l
Ethylene glycol		Fathead minnow	Experimental	96 hours	LC50	8,050 mg/l
Ethylene glycol		Green algae	Experimental	72 hours	EC50	>1,000 mg/l

Ethylene glycol		Water flea	Experimental	48 hours	EC50	>1,100 mg/l
Ethylene glycol		Green Algae	Experimental	72 hours	NOEC	1,000 mg/l
Ethylene glycol		Water flea	Experimental	21 days	NOEC	100 mg/l
Glycerol		Bacteria	Experimental	16 hours	NOEC	10,000 mg/l
Glycerol		Rainbow trout	Experimental	96 hours	LC50	54,000 mg/l
Glycerol		Water flea	Experimental	48 hours	LC50	1,955 mg/l
Disodium tetraborate decahydrate		Activated sludge	Estimated	3 hours	EC50	>6,173.3 mg/l
Disodium tetraborate decahydrate		Green Algae	Estimated	72 hours	EC50	1,848.47 mg/l
Disodium tetraborate decahydrate		Water flea	Estimated	48 hours	EC50	4,973.9 mg/l
Disodium tetraborate decahydrate		Zebra Fish	Estimated	96 hours	LC50	493.8 mg/l
Disodium tetraborate decahydrate		Green Algae	Estimated	72 hours	EC10	1,234.7 mg/l
Disodium tetraborate decahydrate		Water flea	Estimated	21 days	NOEC	624.4 mg/l
Disodium tetraborate decahydrate		Zebra Fish	Estimated	34 days	NOEC	197.55 mg/l
Propane-1,2-diol			Experimental	10 days	LC50	6,983 mg/kg (Dry Weight)
Propane-1,2-diol			Experimental	96 hours	LC50	18,800 mg/l
Propane-1,2-diol		Green Algae	Experimental	96 hours	EC50	19,000 mg/l
Propane-1,2-diol		Rainbow trout	Experimental	96 hours	LC50	40,613 mg/l
Propane-1,2-diol		Water flea	Experimental	48 hours	EC50	18,340 mg/l
Propane-1,2-diol		Green algae	Experimental	96 hours	NOEC	15,000 mg/l
Propane-1,2-diol		Water flea	Experimental	7 days	NOEC	13,020 mg/l
Propane-1,2-diol		Bacteria	Experimental	18 hours	NOEC	>20,000 mg/l
1-dodecyl-2-pyrrolidone		Algae	Experimental	96 hours	EC50	0.053 mg/l
1-dodecyl-2-pyrrolidone		Rainbow trout	Experimental	96 hours	LC50	0.59 mg/l
1-dodecyl-2-pyrrolidone		Water flea	Experimental	48 hours	EC50	0.14 mg/l
Amylase Enzyme			Data not available or insufficient for classification			N/A
4-			Data not			N/A

Formylphenylboronic acid			available or insufficient for classification			
Protease Enzyme			Data not available or insufficient for classification			N/A
5-chloro-2-methyl-2H-isothiazol-3-one		Diatom	Laboratory	72 hours	EC50	0.021 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Green Algae	Laboratory	96 hours	EC50	0.062 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Mysid Shrimp	Laboratory	96 hours	EC50	0.33 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Rainbow trout	Laboratory	96 hours	LC50	0.19 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Sheepshead Minnow	Laboratory	96 hours	LC50	0.36 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Water flea	Laboratory	48 hours	EC50	0.18 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Diatom	Laboratory	72 hours	NOEL	0.01 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one		Fathead minnow	Laboratory	36 days	NOEC	0.02 mg/l
2-methyl-2H-isothiazol-3-one		Activated sludge	Experimental	3 hours	EC50	41 mg/l
2-methyl-2H-isothiazol-3-one		Green Algae	Experimental	96 hours	EC50	0.23 mg/l
2-methyl-2H-isothiazol-3-one		Mysid Shrimp	Experimental	96 hours	LC50	1.81 mg/l
2-methyl-2H-isothiazol-3-one		Rainbow trout	Experimental	96 hours	LC50	4.77 mg/l
2-methyl-2H-isothiazol-3-one		Water flea	Experimental	48 hours	EC50	0.934 mg/l
2-methyl-2H-		Fathead	Experimental	33 days	NOEC	2.1 mg/l

isothiazol-3-one		minnow				
2-methyl-2H-isothiazol-3-one		Green Algae	Experimental	96 hours	NOEC	0.12 mg/l
2-methyl-2H-isothiazol-3-one		Water flea	Experimental	21 days	NOEC	0.044 mg/l
CELLULASE	Trade Secret	Green Algae	Experimental	72 hours	EC50	>100 mg/l
CELLULASE	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
CELLULASE	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
CELLULASE	Trade Secret	Green Algae	Experimental	72 hours	NOEC	100 mg/l
Lipase Enzyme	Trade Secret	Green algae	Experimental	72 hours	EC50	99 mg/l
Lipase Enzyme	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	>402 mg/l
Lipase Enzyme	Trade Secret	Water flea	Experimental	48 hours	EC50	>235 mg/l
Lipase Enzyme	Trade Secret	Green algae	Experimental	72 hours	NOEC	40 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Surfactant	Trade Secret	Data not available-insufficient			N/A	
(2-Methoxymethylethoxy)propanol		Experimental Biodegradation	28 days	BOD	75 % BOD/ThBOD	OECD 301F - Manometric respirometry
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Experimental Biodegradation	28 days	CO2 evolution	80 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Ethylene glycol		Experimental Biodegradation	14 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Glycerol		Experimental Biodegradation	14 days	BOD	63 % BOD/ThBOD	OECD 301C - MITI test (I)
Disodium tetraborate decahydrate		Data not available-insufficient			N/A	
Propane-1,2-diol		Experimental Biodegradation	28 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Propane-1,2-diol		Experimental Biodegradation	64 days	Dissolv. Organic Carbon Deplet	95.8 %removal of DOC	OECD 306(Misc)-Biodegrad. Seaw
1-dodecyl-2-pyrrolidone		Estimated Biodegradation	28 days	BOD	65 % weight	OECD 301F - Manometric respirometry
Amylase Enzyme		Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 % weight	OECD 301E - Modif. OECD Screen
4-Formylphenylboronic acid		Data not available-insufficient			N/A	
Protease		Experimental	28 days	BOD	65-80 %	OECD 301D - Closed

Enzyme		Biodegradation			weight	bottle test
5-chloro-2-methyl-2H-isothiazol-3-one		Experimental Biodegradation	28 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
2-methyl-2H-isothiazol-3-one		Experimental Biodegradation	29 days	CO2 evolution	50 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
CELLULASE	Trade Secret	Experimental Biodegradation	28 days	BOD	129 %BOD/COD	OECD 301F - Manometric respirometry
Lipase Enzyme	Trade Secret	Experimental Biodegradation	28 days	CO2 evolution	100 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Surfactant	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(2-Methoxymethylethoxy)propanol		Experimental Bioconcentration		Log Kow	0.0061	Non-standard method
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Analogous Compound BCF - Bluegill	28 days	Bioaccumulation factor	220	
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.		Experimental Bioconcentration		Log Kow	2.0	OECD 107 log Kow shke flsk mtd
Ethylene glycol		Experimental Bioconcentration		Log Kow	-1.36	Non-standard method
Glycerol		Experimental Bioconcentration		Log Kow	-1.76	Non-standard method
Disodium tetraborate decahydrate		Experimental Bioconcentration		Log Kow	-1.53	Non-standard method
Propane-1,2-diol		Experimental Bioconcentration		Log Kow	-1.07	EC A.8 Partition Coefficient
1-dodecyl-2-pyrrolidone		Estimated Bioconcentration		Bioaccumulation factor	10	Estimated: Bioconcentration factor
Amylase Enzyme		Data not available or insufficient for classification	N/A	N/A	N/A	N/A

4-Formylphenylboronic acid		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Protease Enzyme		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
5-chloro-2-methyl-2H-isothiazol-3-one		Experimental Bioconcentration		Log Kow	0.45	Non-standard method
2-methyl-2H-isothiazol-3-one		Experimental Bioconcentration		Log Kow	-0.486	Non-standard method
CELLULASE	Trade Secret	Estimated Bioconcentration		Log Kow	-1.3	Non-standard method
Lipase Enzyme	Trade Secret	Experimental Bioconcentration		Log Kow	-1.93	

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. 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

Not hazardous for transportation.

Air Transport (IATA)Regulations

UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable

Marine Transport (IMDG)
UN No Not applicable
Proper Shipping Name Not applicable

Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
The Bio Medical Waste (Management & Handling) Rules, 1998
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
(2-Methoxymethylethoxy)propanol
Ethylene glycol

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 0 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision information:
Section 8: Occupational exposure limit table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.
Section 15: MSIHC Part I of Schedule I ingredients information was added.

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 India SDSs are available at http://solutions.3mindia.co.in