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.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2A
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Acute Aquatic Toxicity: Category 3.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements
Signal Word
Danger

Symbols
Health Hazard |

Pictograms

HAZARD STATEMENTS:

H303	May be harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye 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 | kidney/urinary tract | nervous system | respiratory system.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280K	Wear protective gloves and respiratory protection.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see Notes to Physician on this label).
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Notes to Physician:
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

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
Ethylene glycol	107-21-1	1 - 10
Glycerol	56-81-5	1 - 10
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	1 - 10
Disodium tetraborate decahydrate	1303-96-4	1 - 10
Propane-1,2-diol	57-55-6	< 5
Protease Enzyme	9014-01-1	< 1
1-dodecyl-2-pyrrolidone	2687-96-9	< 1
Amylase Enzyme	9000-90-2	< 1
4-Formylphenylboronic acid	87199-17-5	< 1
Sodium hydroxide	1310-73-2	< 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

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
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
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
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use PPE - Exposure Assessment 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. 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.

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
Ethylene glycol	107-21-1	ACGIH	TWA(Vapor fraction):25 ppm;STEL(Vapor fraction):50 ppm;STEL(Inhalable aerosol):10 mg/m3	A4: Not class. as human carcin
Sodium hydroxide	1310-73-2	ACGIH	CEIL:2 mg/m3	
(2-Methoxymethylethoxy)propanol	34590-94-8	ACGIH	TWA:50 ppm	
Propane-1,2-diol	57-55-6	AIHA	TWA(as aerosol):10 mg/m3	
Subtilisins, as 100% crystalline active pure enzyme	9014-01-1	ACGIH	CEIL(as pure cystalline enzyme):0.00006 mg/m3	

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
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.
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 (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
Half facepiece or full facepiece supplied-air respirator

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	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	27 psi
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.*
Kinematic Viscosity	*No data available.*
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	*No data available.*

Particle Characteristics	*Not applicable.*

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
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
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 ATE >2,000 - =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 > 300, < 2000 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 > 2,000 mg/kg
Disodium tetraborate decahydrate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.03 mg/l
Disodium tetraborate decahydrate	Ingestion	Rat	LD50 5,560 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	Ingestion	Rat	LD50 1,800 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	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.96 mg/l
Amylase Enzyme	Ingestion	Rat	LD50 > 1,911 mg/kg
Amylase Enzyme	Dermal	similar health hazards	LD50 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 0.171 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 40 mg/kg
2-methyl-2H-isothiazol-3-one	Dermal	Rat	LD50 242 mg/kg
2-methyl-2H-isothiazol-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.11 mg/l
2-methyl-2H-isothiazol-3-one	Ingestion	Rat	LD50 120 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
(2-Methoxymethylethoxy)propanol	Human and animal	No significant irritation
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	similar	Minimal irritation

	compounds	
Glycerol	Rabbit	No significant irritation
Ethylene glycol	Rabbit	Minimal irritation
Disodium tetraborate decahydrate	Rabbit	No significant irritation
Propane-1,2-diol	Rabbit	No significant irritation
Sodium hydroxide	Rabbit	Corrosive
Protease Enzyme	Rabbit	Mild irritant
Amylase Enzyme	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
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	similar compounds	Severe irritant
Glycerol	Rabbit	No significant irritation
Ethylene glycol	Rabbit	Mild irritant
Disodium tetraborate decahydrate	Rabbit	Severe irritant
Propane-1,2-diol	Rabbit	No significant irritation
Sodium hydroxide	Rabbit	Corrosive
Protease Enzyme	Rabbit	Moderate irritant
Amylase Enzyme	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
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	Human	Some positive data exist, but the data are not sufficient for classification
Glycerol	Guinea pig	Not classified
Ethylene glycol	Human	Not classified
Disodium tetraborate decahydrate	Guinea pig	Not classified
Propane-1,2-diol	Human	Not classified
Sodium hydroxide	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

Name	Species	Value

Protease Enzyme	Human	Sensitising
Amylase Enzyme	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
(2-Methoxymethylethoxy)propanol	In Vitro	Not mutagenic
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	In Vitro	Not mutagenic
Ethylene glycol	In Vitro	Not mutagenic
Ethylene glycol	In vivo	Not mutagenic
Disodium tetraborate decahydrate	In Vitro	Not mutagenic
Propane-1,2-diol	In Vitro	Not mutagenic
Propane-1,2-diol	In vivo	Not mutagenic
Sodium hydroxide	In Vitro	Not mutagenic
Protease Enzyme	In Vitro	Not mutagenic
Amylase Enzyme	In Vitro	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	during organogenesis

				mg/kg/day	
Disodium tetraborate decahydrate	Ingestion	Toxic to female reproduction	Rat	NOAEL 17.5 mg boron/kg/day	3 generation
Disodium tetraborate decahydrate	Ingestion	Toxic to male reproduction	Rat	NOAEL 17.5 mg boron/kg/day	3 generation
Disodium tetraborate decahydrate	Ingestion	Toxic to development	similar compoun ds	NOAEL 9.6 mg boron/kg/day	during gestation
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
Disodium tetraborate decahydrate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
Propane-1,2-diol	Ingestion	central nervous system depression	Not classified	Human and animal	NOAEL Not available	
Sodium hydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
Protease Enzyme	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
5-chloro-2-methyl-2H-isothiazol-3-one	Inhalation	respiratory irritation	May cause respiratory irritation	similar health	NOAEL Not available	

				hazards		
2-methyl-2H-isothiazol-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
(2-Methoxymethylethoxy)propanol	Dermal	kidney and/or bladder	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Dermal	heart	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Dermal	endocrine system	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Dermal	liver	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Dermal	respiratory system	Not classified	Rabbit	NOAEL 9,500 mg/kg/day	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	heart	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	liver	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	immune system	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	nervous system	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	eyes	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 1.21 mg/l	90 days
(2-Methoxymethylethoxy)propanol	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)pro	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000	28 days

panol					mg/kg/day	
(2-Methoxymethylethoxy)propanol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
(2-Methoxymethylethoxy)propanol	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Glycerol	Inhalation	respiratory system	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerol	Inhalation	heart	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerol	Inhalation	liver	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerol	Ingestion	endocrine system	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Glycerol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Glycerol	Ingestion	liver	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Glycerol	Ingestion	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 mg/kg/day	2 years
Ethylene glycol	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	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	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	endocrine system	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	bone, teeth, nails, and/or hair	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	nervous system	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Ethylene glycol	Ingestion	eyes	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Disodium tetraborate decahydrate	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	similar compounds	NOAEL not available	

Disodium tetraborate decahydrate	Ingestion	kidney and/or bladder	Not classified	similar compoun ds	NOAEL not available	
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
Protease Enzyme	Dermal	skin	Not classified	Rabbit	NOAEL 10 mg/kg/day	28 days
Protease Enzyme	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 10 mg/kg/day	28 days
Protease Enzyme	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Protease Enzyme	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Protease Enzyme	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Protease Enzyme	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Protease Enzyme	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	heart	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	liver	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	nervous system	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	eyes	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 weeks
Amylase Enzyme	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,100 mg/kg/day	13 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:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Surfactant	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
(2-Methoxymethylethoxy)propanol	34590-94-8	Fathead minnow	Experimental	96 hours	LC50	>10,000 mg/l
(2-Methoxymethylethoxy)propanol	34590-94-8	Green algae	Experimental	72 hours	ErC50	>969 mg/l
(2-Methoxymethylethoxy)propanol	34590-94-8	Water flea	Experimental	48 hours	LC50	1,919 mg/l
(2-Methoxymethylethoxy)propanol	34590-94-8	Green algae	Experimental	72 hours	EC10	133 mg/l
(2-Methoxymethylethoxy)propanol	34590-94-8	Bacteria	Experimental	18 hours	EC10	4,168 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Green algae	Analogous Compound	96 hours	EC50	36 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Rainbow trout	Experimental	96 hours	LC50	4.3 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Water flea	Experimental	48 hours	EC50	2.9 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Fathead minnow	Analogous Compound	28 days	NOEC	0.9 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Green algae	Analogous Compound	72 hours	NOEC	2.2 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Water flea	Analogous Compound	21 days	NOEC	0.3 mg/l
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Activated sludge	Analogous Compound	3 hours	EC50	550 mg/l

BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Redworm	Analogous Compound	14 days	LC50	>1,000 mg/kg (Dry Weight)
Ethylene glycol	107-21-1	Bacteria	Experimental	16 hours	EC50	10,000 mg/l
Ethylene glycol	107-21-1	Fathead minnow	Experimental	96 hours	LC50	8,050 mg/l
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	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
Ethylene glycol	107-21-1	Water flea	Experimental	21 days	NOEC	100 mg/l
Glycerol	56-81-5	Rainbow trout	Experimental	96 hours	LC50	54,000 mg/l
Glycerol	56-81-5	Water flea	Experimental	48 hours	LC50	1,955 mg/l
Glycerol	56-81-5	Bacteria	Experimental	16 hours	NOEC	10,000 mg/l
Disodium tetraborate decahydrate	1303-96-4	Green algae	Analogous Compound	72 hours	EC50	466 mg/l
Disodium tetraborate decahydrate	1303-96-4	Water flea	Analogous Compound	48 hours	EC50	1,240 mg/l
Disodium tetraborate decahydrate	1303-96-4	Zebra Fish	Analogous Compound	96 hours	LC50	123 mg/l
Disodium tetraborate decahydrate	1303-96-4	Green algae	Analogous Compound	72 hours	ErC10	309 mg/l
Disodium tetraborate decahydrate	1303-96-4	Water flea	Analogous Compound	21 days	EC10	156 mg/l
Disodium tetraborate decahydrate	1303-96-4	Zebra Fish	Analogous Compound	34 days	NOEC	49 mg/l
Disodium tetraborate decahydrate	1303-96-4	Activated sludge	Analogous Compound	3 hours	EC50	>1,540 mg/l
Propane-1,2-diol	57-55-6	Amphipod	Experimental	10 days	LC50	6,983 mg/kg (Dry Weight)
Propane-1,2-diol	57-55-6	Green algae	Experimental	96 hours	EC50	19,000 mg/l
Propane-1,2-diol	57-55-6	Mysid Shrimp	Experimental	96 hours	LC50	18,800 mg/l
Propane-1,2-diol	57-55-6	Rainbow trout	Experimental	96 hours	LC50	40,613 mg/l
Propane-1,2-diol	57-55-6	Water flea	Experimental	48 hours	EC50	18,340 mg/l
Propane-1,2-diol	57-55-6	Green algae	Experimental	96 hours	NOEC	15,000 mg/l
Propane-1,2-diol	57-55-6	Water flea	Experimental	7 days	NOEC	13,020 mg/l
Propane-1,2-diol	57-55-6	Bacteria	Experimental	18 hours	NOEC	>20,000 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Green algae	Experimental	96 hours	EC50	0.086 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Rainbow trout	Experimental	96 hours	LC50	0.59 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Water flea	Experimental	48 hours	EC50	0.139 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Green algae	Experimental	96 hours	EC10	0.046 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Zebra Fish	Experimental	35 days	EC10	0.018 mg/l
1-dodecyl-2-pyrrolidone	2687-96-9	Activated sludge	Experimental	3 hours	EC50	36.4 mg/l
Amylase Enzyme	9000-90-2	Green algae	Experimental	72 hours	ErC50	49 mg/l
Amylase Enzyme	9000-90-2	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Amylase Enzyme	9000-90-2	Water flea	Experimental	48 hours	EC50	2,000 mg/l
Amylase Enzyme	9000-90-2	Green algae	Experimental	72 hours	NOEC	25 mg/l
4-Formylphenylboronic acid	87199-17-5	Green algae	Experimental	72 hours	ErC50	10.7 mg/l
4-Formylphenylboronic acid	87199-17-5	Rainbow trout	Experimental	96 hours	LC50	56.7 mg/l
4-Formylphenylboronic acid	87199-17-5	Water flea	Experimental	48 hours	EC50	61.6 mg/l

4-Formylphenylboronic acid	87199-17-5	Green algae	Experimental	72 hours	NOEC	0.75 mg/l
Protease Enzyme	9014-01-1	Green algae	Experimental	72 hours	ErC50	0.83 mg/l
Protease Enzyme	9014-01-1	Rainbow trout	Experimental	96 hours	LC50	8.2 mg/l
Protease Enzyme	9014-01-1	Water flea	Experimental	48 hours	EC50	0.586 mg/l
Protease Enzyme	9014-01-1	Fathead minnow	Experimental	32 days	NOEC	0.042 mg/l
Protease Enzyme	9014-01-1	Green algae	Experimental	72 hours	NOEC	0.317 mg/l
Protease Enzyme	9014-01-1	Water flea	Experimental	21 days	NOEC	0.324 mg/l
Protease Enzyme	9014-01-1	Redworm	Experimental	14 days	LC50	>568 mg/kg (Dry Weight)
Sodium hydroxide	1310-73-2	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Diatom	Experimental	72 hours	EbC50	0.021 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Green algae	Experimental	96 hours	ErC50	0.018 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Mysid Shrimp	Experimental	96 hours	EC50	0.33 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Rainbow trout	Experimental	96 hours	LC50	0.19 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Sheepshead Minnow	Experimental	96 hours	LC50	0.36 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Water flea	Experimental	48 hours	EC50	0.18 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Diatom	Experimental	72 hours	NOEL	0.01 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Fathead minnow	Experimental	36 days	NOEC	0.02 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Water flea	Experimental	21 days	NOEC	0.172 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Bird	Experimental	8 days	LC50	100 ppm diet
2-methyl-2H-isothiazol-3-one	2682-20-4	Diatom	Experimental	72 hours	ErC50	0.099 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Green algae	Experimental	96 hours	ErC50	0.23 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Mysid Shrimp	Experimental	96 hours	LC50	1.81 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Sheepshead Minnow	Experimental	96 hours	LC50	25.1 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Water flea	Experimental	48 hours	LC50	0.934 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Blackworm	Experimental	28 days	NOEC	25 mg/kg (Dry Weight)
2-methyl-2H-isothiazol-3-one	2682-20-4	Diatom	Experimental	72 hours	ErC10	0.04 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Fathead minnow	Experimental	33 days	NOEC	2.1 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Green algae	Experimental	96 hours	NOEC	0.12 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Water flea	Experimental	21 days	NOEC	0.044 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Activated sludge	Experimental	3 hours	EC50	41 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	N/A	N/A	N/A
(2-Methoxymethylethoxy)propanol	34590-94-8	Experimental Biodegradation	28 days	BOD	75 %BOD/ThOD	OECD 301F - Manometric respirometry
(2-Methoxymethylethoxy)propanol	34590-94-8	Experimental Aquatic Inherent Biodegrad.	13 days	Dissolv. Organic Carbon Deplet	94 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Experimental Biodegradation	28 days	CO2 evolution	80 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Ethylene glycol	107-21-1	Experimental Biodegradation	14 days	BOD	90 %BOD/ThOD	OECD 301C - MITI test (I)
Glycerol	56-81-5	Experimental Biodegradation	14 days	BOD	63 %BOD/ThOD	OECD 301C - MITI test (I)
Disodium tetraborate decahydrate	1303-96-4	Data not available-insufficient	N/A	N/A	N/A	N/A
Propane-1,2-diol	57-55-6	Experimental Biodegradation	28 days	BOD	90 %BOD/ThOD	OECD 301C - MITI test (I)
Propane-1,2-diol	57-55-6	Experimental Biodegradation	64 days	Dissolv. Organic Carbon Deplet	95.8 %removal of DOC	OECD 306(Misc)-Biodegrad. Seaw
1-dodecyl-2-pyrrolidone	2687-96-9	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	99.8 %removal of DOC	40CFR 796.3340-Mod. SCAS test
Amylase Enzyme	9000-90-2	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 %removal of DOC	OECD 301E - Modif. OECD Screen
4-Formylphenylboronic acid	87199-17-5	Experimental Biodegradation	28 days	CO2 evolution	92 %CO2 evolution/THCO2 evolution	EC C.4.C. CO2 Evolution Test
4-Formylphenylboronic acid	87199-17-5	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	EC C.7 Hydrolysis at pH
Protease Enzyme	9014-01-1	Experimental Biodegradation	29 days	CO2 evolution	100 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Sodium hydroxide	1310-73-2	Data not available-insufficient	N/A	N/A	N/A	N/A
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Aquatic Inherent Biodegrad.	2 days	BOD	97 %BOD/COD	OECD 302B Zahn-Wellens/EVPA
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Biodegradation	28 days	CO2 evolution	62 %CO2 evolution/THCO2 evolution	similar to OECD 301B
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Hydrolysis		Hydrolytic half-life basic pH	13 days (t 1/2)	OECD 111 Hydrolysis func of pH
2-methyl-2H-isothiazol-3-one	2682-20-4	Experimental Biodegradation	29 days	CO2 evolution	50 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
2-methyl-2H-isothiazol-3-one	2682-20-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Surfactant	Trade Secret	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
(2-Methoxymethylethoxy)propanol	34590-94-8	Experimental Bioconcentration		Log Kow	0.004	OECD 107 log Kow shke flsk mtd
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	220	
BENZENESULFONIC ACID, C10-16-ALKYL DERIVS.	68584-22-5	Experimental Bioconcentration		Log Kow	2.0	OECD 107 log Kow shke flsk mtd
Ethylene glycol	107-21-1	Experimental Bioconcentration		Log Kow	-1.36	
Glycerol	56-81-5	Experimental Bioconcentration		Log Kow	-1.75	similar to OECD 107
Disodium tetraborate decahydrate	1303-96-4	Experimental Bioconcentration		Log Kow	-1.53	EC A.8 Partition Coefficient
Propane-1,2-diol	57-55-6	Experimental Bioconcentration		Log Kow	-1.07	EC A.8 Partition Coefficient
1-dodecyl-2-pyrrolidone	2687-96-9	Modeled Bioconcentration		Bioaccumulation factor	9.8	Catalogic™
1-dodecyl-2-pyrrolidone	2687-96-9	Experimental Bioconcentration		Log Kow	4.03	EC A.8 Partition Coefficient
Amylase Enzyme	9000-90-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4-Formylphenylboronic acid	87199-17-5	Experimental Bioconcentration		Log Kow	1.36	EC A.8 Partition Coefficient
Protease Enzyme	9014-01-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sodium hydroxide	1310-73-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Bioconcentration		Log Kow	0.45	
2-methyl-2H-isothiazol-3-one	2682-20-4	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	5.75	
2-methyl-2H-isothiazol-3-one	2682-20-4	Experimental Bioconcentration		Log Kow	-0.486	OECD 107 log Kow shke flsk mtd

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. Proper destruction may require the use of additional fuel during incineration processes. 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
Other Dangerous Goods Descriptions: None assigned.

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
Other Dangerous Goods Descriptions: None assigned.

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
Propanol, 1(or 2)-(2-methoxymethylethoxy)-
Sodium hydroxide
Sodium hydroxide (Na(OH))

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:** 1 **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 02: GHS Precautionary - Notes to Physician information was added.
Label: GHS Classification information was modified.
Label: GHS Environmental Hazard Statements information was modified.
Label: GHS Precautionary - Disposal information was deleted.
Label: GHS Precautionary - Prevention information was modified.
Label: GHS Precautionary - Response information was modified.
Label: GHS Target Organ Hazard Statement information was modified.
Label: Graphic information was modified.
Label: Signal Word information was modified.
Label: Symbol information was modified.
Section 2: Ingredient table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 6: Accidental release personal information information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 08: Personal Protection - Apron Statement information was added.
Section 8: Personal Protection - Skin/body information information was deleted.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 8: Skin protection - protective clothing information information was deleted.
Section 8: Skin protection - recommended gloves information information was modified.
Section 8: Skin protection - recommended gloves text information was added.
Section 8: Skin protection - recommended gloves text information was deleted.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 09: Kinematic Viscosity information information was added.
Section 09: Nanoparticle information was deleted.
Section 09: Particle Characteristics N/A information was added.
Section 09: Percent Volatile information was modified.
Section 09: Vapor Density Value information was modified.
Section 9: Vapour pressure value information was modified.
Section 09: Viscosity information was deleted.
Section 09: VOC Less H2O & Exempt Solvents information was modified.
Section 09: Volatile Organic Compounds information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was added.
Section 11: Respiratory Sensitization text information was deleted.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Chronic aquatic hazard information 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 13: Standard Phrase Category Waste GHS information was modified.

Section 14: Air Transport - Other Dangerous Goods Descriptions heading information was added.
Section 14: Marine Transport - Other Dangerous Goods Descriptions heading information was added.
Section 14: Other Dangerous Goods Descriptions (IATA) information was added.
Section 14: Other Dangerous Goods Descriptions (IMO) information was added.
Section 15: MSIHC Ingredients information was modified.
Section 16: NFPA hazard classification for flammability information was modified.

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