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 70505 Rapid Multi-Enzyme Cleaner

Product Identification Numbers
IA-4201-0001-7

1.2. Recommended use and restrictions on use

Recommended use
Cleaner for Bioburden, Automated and Manual Cleaning for Surgical Instruments

1.3. Supplier's details

Address:	3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone:	080-39143000, contact Product EHS team
E Mail:	productehs.in@mmm.com
Website:	http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-39143000 (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
Flammable Liquid: Category 4.
Serious Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 3.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Acute Aquatic Toxicity: Category 3.

2.2. Label elements

Signal Word
DANGER!

Symbols
Health Hazard |

Pictograms

HAZARD STATEMENTS:

H227	Combustible liquid.
H319	Causes serious eye irritation.
H316	Causes mild 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.
H402	Harmful to aquatic life.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
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 + P313	IF exposed or concerned: Get medical advice/attention.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Disposal:

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

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Alcohols, C11-15 secondary, ethoxylated	68131-40-8	0.1 - 1
Water	7732-18-5	40 - 60
Sodium Xylenesulphonate	1300-72-7	5 - 15
Surfactant	Trade Secret	1 - 10
Glycerol	56-81-5	1 - 10
(2-Methoxymethylethoxy)propanol	34590-94-8	1 - 10
Propane-1,2-diol	57-55-6	1 - 10
Disodium tetraborate decahydrate	1303-96-4	< 5
Protease Enzyme	9014-01-1	0.1 - 5
Amylase Enzyme	9000-90-2	0.1 - 5
4-Formylphenylboronic acid	87199-17-5	0.1 - 1
1-dodecyl-2-pyrrolidone	2687-96-9	0.01 - 0.1
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	< 0.01
2-methyl-2H-isothiazol-3-one	2682-20-4	< 0.01
Lipase Enzyme	Trade Secret	0 - 5
CELLULASE	Trade Secret	0 - 5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable Extinguishing media
Material will not burn. 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. 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.
Oxides of sulphur.	During combustion.

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Eliminate all ignition sources if safe to do so. 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.

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 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

7.1. Precautions for safe handling
For industrial or professional use only. Do not use in a confined area with minimal air exchange. 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.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard. 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. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Disodium tetraborate decahydrate	1303-96-4	ACGIH	TWA(inhalable fraction):2 mg/m3;STEL(inhalable fraction):6 mg/m3	A4: Not class. as human carcin
(2-Methoxymethylethoxy)propanol	34590-94-8	ACGIH	TWA:100 ppm;STEL:150 ppm	SKIN
Propane-1,2-diol	57-55-6	AIHA	TWA(as aerosol):10 mg/m3	
Protease 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:
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.

f 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

Respiratory protection

In case of inadequate ventilation wear 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Water based solution.
Appearance/Odour	Green Blue; No Odor
Odour threshold	*No data available.*
pH	7.8 - 9
Melting point/Freezing point: NA	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	70 ºC
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*No data available.*
Vapour density	*No data available.*
Density	1.042 g/cm3
Relative density	1.042 [*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.*

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
High shear and high temperature conditions
Heat.

10.5 Incompatible materials
Reactive metals
Strong acids.
Strong bases.
Strong oxidising agents.

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.

Skin contact
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. 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.

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Sodium Xylenesulphonate	Dermal		LD50 estimated to be > 5,000 mg/kg
Sodium Xylenesulphonate	Ingestion	Rat	LD50 > 5,000 mg/kg
Surfactant	Dermal	Rabbit	LD50 4,600 mg/kg
Surfactant	Ingestion	Rat	LD50 2,500 mg/kg
Glycerol	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg
Glycerol	Ingestion	Rat	LD50 > 5,000 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
Propane-1,2-diol	Dermal	Rabbit	LD50 20,800 mg/kg
Propane-1,2-diol	Ingestion	Rat	LD50 22,000 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

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
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
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
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
Glycerol	Rabbit	No significant irritation
(2-Methoxymethylethoxy)propanol	Human and animal	No significant 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
Glycerol	Rabbit	No significant irritation
(2-Methoxymethylethoxy)propanol	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

Skin Sensitisation

Name	Species	Value
Glycerol	Guinea pig	Not classified
(2-Methoxymethylethoxy)propanol	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
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
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
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
(2-Methoxymethylethoxy)propanol	Inhalation	Not classified for development	Multiple animal species	NOAEL 1.82 mg/l	during organogenesis
Propane-1,2-diol	Ingestion	Not classified for female reproduction	Mouse	NOAEL	2 generation

				10,100 mg/kg/day	
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	
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
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
(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 |	Not classified	Rat	NOAEL 1.21 mg/l	90 days

		nervous system | eyes | kidney and/or bladder				
(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
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
Alcohols, C11-15 secondary, ethoxylated	68131-40-8		Data not available or insufficient for classification			
Sodium Xylenesulphonate	1300-72-7	Fathead minnow	Experimental	96 hours	LC50	>400 mg/l
Sodium Xylenesulphonate	1300-72-7	Green Algae	Experimental	96 hours	EC50	230 mg/l
Sodium Xylenesulphonate	1300-72-7	Water flea	Experimental	48 hours	EC50	>400 mg/l
Sodium	1300-72-7	Green Algae	Experimental	96 hours	NOEC	31 mg/l

Xylenesulphonate						
Surfactant	Trade Secret		Data not available or insufficient for classification			
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
(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	EC50	>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	Effect Concentration 10%	133 mg/l
Propane-1,2-diol	57-55-6	Crustacea other	Experimental	96 hours	LC50	18,800 mg/l
Propane-1,2-diol	57-55-6	Green Algae	Experimental	96 hours	EC50	19,000 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
Disodium tetraborate decahydrate	1303-96-4	Green Algae	Estimated	72 hours	EC50	463 mg/l
Disodium tetraborate decahydrate	1303-96-4	Zebra Fish	Estimated	96 hours	LC50	123 mg/l
Disodium tetraborate decahydrate	1303-96-4	Coho Salmon	Experimental	96 hours	LC50	354 mg/l
Disodium tetraborate decahydrate	1303-96-4	Water flea	Experimental	48 hours	EC50	1,248 mg/l
Disodium tetraborate decahydrate	1303-96-4	Green Algae	Estimated	72 hours	NOEC	155 mg/l
Disodium tetraborate decahydrate	1303-96-4	Water flea	Estimated	21 days	NOEC	53 mg/l

Disodium tetraborate decahydrate	1303-96-4	Zebra Fish	Estimated	34 days	NOEC	49.6 mg/l
Protease Enzyme	9014-01-1		Data not available or insufficient for classification			
Amylase Enzyme	9000-90-2		Data not available or insufficient for classification			
4-Formylphenylboronic acid	87199-17-5		Data not available or insufficient for classification			
1-dodecyl-2-pyrrolidone	2687-96-9	Algae	Experimental	96 hours	EC50	0.053 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	0.14 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Green Algae	Laboratory	96 hours	EC50	0.062 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Rainbow trout	Laboratory	96 hours	LC50	0.19 mg/l
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Water flea	Laboratory	48 hours	EC50	0.18 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Rainbow trout	Experimental	96 hours	LC50	0.07 mg/l
2-methyl-2H-isothiazol-3-one	2682-20-4	Water flea	Experimental	48 hours	EC50	0.18 mg/l
Lipase Enzyme	Trade Secret		Data not available or insufficient for classification			
CELLULASE	Trade Secret		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Alcohols, C11-15 secondary, ethoxylated	68131-40-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	71 % weight	OECD 301A - DOC Die Away Test
Sodium	1300-72-7	Experimental	28 days	CO2 evolution	84 % weight	OECD 301B - Modified

Xylenesulphonate		Biodegradation				sturm or CO2
Surfactant	Trade Secret	Data not available-insufficient			N/A	
Glycerol	56-81-5	Experimental Biodegradation	14 days	BOD	63 % BOD/ThBOD	OECD 301C - MITI test (I)
(2-Methoxymethylethoxy)propanol	34590-94-8	Experimental Biodegradation	28 days	BOD	75 % BOD/ThBOD	OECD 301F - Manometric respirometry
Propane-1,2-diol	57-55-6	Experimental Biodegradation	28 days	BOD	90 % BOD/ThBOD	OECD 301C - MITI test (I)
Disodium tetraborate decahydrate	1303-96-4	Data not available-insufficient			N/A	
Protease Enzyme	9014-01-1	Experimental Biodegradation	28 days	BOD	65-80 % weight	OECD 301D - Closed bottle test
Amylase Enzyme	9000-90-2	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	99 % weight	OECD 301E - Modified OECD Scre
4-Formylphenylboronic acid	87199-17-5	Data not available-insufficient			N/A	
1-dodecyl-2-pyrrolidone	2687-96-9	Estimated Biodegradation	28 days	BOD	65 % weight	OECD 301F - Manometric respirometry
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Biodegradation	21 days	BOD	80 % weight	Other methods
2-methyl-2H-isothiazol-3-one	2682-20-4	Experimental Biodegradation	28 days	CO2 evolution	48 % weight	Other methods
Lipase Enzyme	Trade Secret	Data not available-insufficient			N/A	
CELLULASE	Trade Secret	Data not available-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Alcohols, C11-15 secondary, ethoxylated	68131-40-8	Estimated Bioconcentration		Bioaccumulation factor	5.16	Estimated: Bioconcentration factor
Sodium Xylenesulphonate	1300-72-7	Estimated BCF-Carp	42 days	Bioaccumulation factor	=<2.3	OECD 305E - Bioaccumulation flow-through fish test
Surfactant	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Glycerol	56-81-5	Experimental Bioconcentration		Log Kow	-1.76	Other methods
(2-Methoxymethylethoxy)propanol	34590-94-8	Experimental Bioconcentration		Log Kow	0.0061	Other methods
Propane-1,2-diol	57-55-6	Experimental Bioconcentration		Log Kow	-0.92	Other methods
Disodium tetraborate decahydrate	1303-96-4	Experimental Bioconcentration		Log Kow	-1.53	Other methods
Protease Enzyme	9014-01-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1-dodecyl-2-pyrrolidone	2687-96-9	Estimated Bioconcentration		Bioaccumulation factor	10	Estimated: Bioconcentration factor
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	Experimental Bioconcentration		Log Kow	0.45	Other methods
2-methyl-2H-isothiazol-3-one	2682-20-4	Experimental Bioconcentration		Log Kow	0.5	Other methods
Lipase Enzyme	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
CELLULASE	Trade Secret	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
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
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
Central Motor Vehicle Rules, 1989

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

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 Flammable Liquid.

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 14: Packing group (IMO) information was added.
Label: GHS Classification information was modified.
Label: GHS Environmental Hazard Statements information was added.
Label: GHS Precautionary - Prevention information was modified.
Label: GHS Precautionary - Response information was modified.
Section 2: Ingredient table information was modified.
Section 4: First aid for eye contact information information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Skin/body information information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive Hazards information information was added.
Section 11: Reproductive Toxicity 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: Acute 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: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: Environmental hazards information was added.
Section 14: IMO Subsidiary Risk information was added.
Section 14: IMO transport hazard classes information was added.
Section 14: Proper Shipping Name (IMO) information was added.
Section 14: UN Number (IMO) information was added.
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.

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