

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M[™] TB Quat Disinfectant Ready-To-Use Cleaner

1.2. Recommended use and restrictions on use

Recommended use

Disinfectant, Rinse-free, EPA registered hospital germicide for disinfecting and cleaning non-critical items. Proven effective in killing hepatitis B virus (HBV) and TB.

1.3. Supplier's details

ADDRESS:3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301
Petaling, Jaya, SelangorTelephone:03-7884 2888E Mail:3mmyehsr@mmm.comWebsite:www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Serious Eye Damage/Irritation: Category 2. Specific Target Organ Toxicity (repeated exposure): Category 2.

2.2. Label elements Signal word Warning

Symbols Exclamation mark | Health Hazard |

Pictograms



Hazard Statements H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system
Precautionary statements General: P102 P101	Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention: P260	Do not breathe dust/fume/gas/mist/vapors/spray.
Response: P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Disposal: P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

All or part of the classification is based on toxicity test data.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
WATER	7732-18-5	60 - 90
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	5 - 10
TETRASODIUM	64-02-8	1 - 5
ETHYLENEDIAMINETETRAACETATE		
ETHOXYLATED C12-C15 ALCOHOLS	68131-39-5	0.5 - 0.9
SODIUM METASILICATE	6834-92-0	0.1 - 0.5
DIPENTENE	Trade Secret	<= 0.1
BENZYL-C12-18-ALKYLDIMETHYL	68391-01-5	<= 0.1105
AMMONIUM CHLORIDES		
Quaternary ammonium compounds, C12-	85409-23-0	<= 0.1105
14-alkyl[(ethylphenyl)methyl]dimethyl,		
chlorides		
Terpenes and terpenoids, sweet orange-oil	Trade Secret	<= 0.08
TERPENES AND TERPENOIDS, LIME-	Trade Secret	<= 0.06
OIL		
LINALYL ALCOHOL	78-70-6	<= 0.01
HEXYLENE GLYCOL	Trade Secret	<= 0.01
2-(PHENYLMETHYLENE)OCTANAL	101-86-0	<= 0.01

6-Octenenitrile, 3,7-dimethyl-	Trade Secret	<= 0.01
D-LIMONENE	5989-27-5	<= 0.002
Fragrance	Trade Secret	<= 0.002

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:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

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

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

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. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

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 dikes 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. NOTE: The above precautionary information presumes that this ready-to-use product has been diluted and dispensed from a chemical dispensing system. Keep out of reach of children. Do not breathe dust/fume/gas/mist/vapors/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. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidizing 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	C.A.S. No.	Agency	Limit type	Additional Comments
DIETHYLENE GLYCOL	112-34-5	ACGIH	TWA(inhalable fraction and	
BUTYL ETHER			vapor):10 ppm	
HEXYLENE GLYCOL	Trade	ACGIH	TWA(Vapor fraction):25	
	Secret		ppm;STEL(Inhalable	
			aerosol):10	
			mg/m3;STEL(Vapor	
			fraction):50 ppm	
HEXYLENE GLYCOL	Trade	Malaysia OELs	CEIL:121 mg/m3(25 ppm)	
	Secret			

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

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/vapors/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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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:	Liquid		
Color	Colorless		
Odor	Lemon		
Odor threshold	No Data Available		
рН	11.9 - 12.9		
Melting point/Freezing point	Not Applicable		
Boiling point/Initial boiling point/Boiling range	>100 °C		
Flash Point	No flash point		
Evaporation rate	No Data Available		
Flammability (solid, gas)	Not Applicable		
Flammable Limits(LEL)	No Data Available		
Flammable Limits(UEL)	No Data Available		
Vapor Density	No Data Available		
Density	No Data Available		
Relative Density	1.007 - 1.019 [<i>Ref Std</i> :WATER=1]		
Water solubility	Complete		
Solubility- non-water	No Data Available		
Partition coefficient: n-octanol/ water	No Data Available		
Autoignition temperature	Not Applicable		
Decomposition temperature	No Data Available		
Viscosity	< 100 mPa-s		
Volatile Organic Compounds	<1 % weight [<i>Test Method</i> :calculated per CARB title 2]		
Percent volatile	60 - 100 % weight		
VOC Less H2O & Exempt Solvents	< 50 g/l [<i>Test Method</i> :calculated per CARB title 2]		
-			

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 polymerization will not occur.

10.4. Conditions to avoid Not determined

10.5. Incompatible materials Strong acids Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u> Carbon monoxide Carbon dioxide Condition Not Specified Not Specified

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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

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

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

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

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-		No data available; calculated ATE >12.5 mg/l

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	Dust/Mist(4		
	hr)		
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
DIETHYLENE GLYCOL BUTYL ETHER	Dermal	Rabbit	LD50 2,764 mg/kg
DIETHYLENE GLYCOL BUTYL ETHER	Ingestion	Rat	LD50 7,292 mg/kg
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Inhalation-	Rat	LC50 > 1.5 mg/l
	Dust/Mist		
	(4 hours)		
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Ingestion	Rat	LD50 1,658 mg/kg
ETHOXYLATED C12-C15 ALCOHOLS	Dermal	Rat	LD50 5,000 mg/kg
ETHOXYLATED C12-C15 ALCOHOLS	Ingestion	Rat	LD50 1,200 mg/kg
SODIUM METASILICATE	Dermal	Rabbit	LD50 > 4,640 mg/kg
SODIUM METASILICATE	Ingestion	Rat	LD50 500 mg/kg
DIPENTENE	Inhalation-	Mouse	LC50 > 3.14 mg/l
	Vapor (4		
	hours)		
DIPENTENE	Dermal	Rabbit	LD50 > 5,000 mg/kg
DIPENTENE	Ingestion	Rat	LD50 4,400 mg/kg
BENZYL-C12-18-ALKYLDIMETHYL AMMONIUM	Dermal	Not	LD50 > 2,000 mg/kg
CHLORIDES		available	
BENZYL-C12-18-ALKYLDIMETHYL AMMONIUM	Ingestion	Not	LD50 500 mg/kg
CHLORIDES		available	
Terpenes and terpenoids, sweet orange-oil	Inhalation-	Mouse	LC50 > 3.14 mg/l
	Vapor (4		
	hours)		
Terpenes and terpenoids, sweet orange-oil	Dermal	Rabbit	LD50 > 5,000 mg/kg
Terpenes and terpenoids, sweet orange-oil	Ingestion	Rat	LD50 4,400 mg/kg
LINALYL ALCOHOL	Dermal	Rabbit	LD50 5,610 mg/kg
LINALYL ALCOHOL	Ingestion	Rat	LD50 2,790 mg/kg
2-(PHENYLMETHYLENE)OCTANAL	Ingestion	Rat	LD50 3,100 mg/kg
D-LIMONENE	Inhalation-	Mouse	LC50 > 3.14 mg/l
	Vapor (4		
	hours)		
D-LIMONENE	Dermal	Rabbit	LD50 > 5,000 mg/kg
D-LIMONENE	Ingestion	Rat	LD50 4,400 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
DIETHYLENE GLYCOL BUTYL ETHER	Rabbit	Minimal irritation
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Rabbit	No significant irritation
SODIUM METASILICATE	Rabbit	Corrosive
DIPENTENE	Rabbit	Mild irritant
BENZYL-C12-18-ALKYLDIMETHYL AMMONIUM CHLORIDES	Professio	Corrosive
	nal	
	judgemen	
	t	
Terpenes and terpenoids, sweet orange-oil	Rabbit	Mild irritant
LINALYL ALCOHOL	Rabbit	Irritant
2-(PHENYLMETHYLENE)OCTANAL	Rabbit	Irritant
D-LIMONENE	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
DIETHYLENE GLYCOL BUTYL ETHER	Rabbit	Corrosive
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Rabbit	Corrosive
ETHOXYLATED C12-C15 ALCOHOLS	Not	Corrosive
	available	
SODIUM METASILICATE	Rabbit	Corrosive
DIPENTENE	Rabbit	Mild irritant
BENZYL-C12-18-ALKYLDIMETHYL AMMONIUM CHLORIDES	Professio	Corrosive
	nal	

	judgemen	
	t	
Terpenes and terpenoids, sweet orange-oil	Rabbit	Mild irritant
LINALYL ALCOHOL	Rabbit	Moderate irritant
D-LIMONENE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Human	Not classified
	and	
	animal	
SODIUM METASILICATE	Mouse	Not classified
DIPENTENE	Mouse	Sensitizing
Terpenes and terpenoids, sweet orange-oil	Mouse	Sensitizing
LINALYL ALCOHOL	Mouse	Sensitizing
2-(PHENYLMETHYLENE)OCTANAL	Multiple	Sensitizing
	animal	
	species	
D-LIMONENE	Mouse	Sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	In Vitro	Some positive data exist, but the data are not
		sufficient for classification
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	In vivo	Some positive data exist, but the data are not sufficient for classification
SODIUM METASILICATE	In Vitro	Not mutagenic
SODIUM METASILICATE	In vivo	Not mutagenic
DIPENTENE	In Vitro	Not mutagenic
DIPENTENE	In vivo	Not mutagenic
Terpenes and terpenoids, sweet orange-oil	In Vitro	Not mutagenic
Terpenes and terpenoids, sweet orange-oil	In vivo	Not mutagenic
D-LIMONENE	In Vitro	Not mutagenic
D-LIMONENE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
TETRASODIUM ETHYLENEDIAMINETETRAACETATE	Ingestion	Multiple	Not carcinogenic
		animal	
		species	
DIPENTENE	Ingestion	Rat	Some positive data exist, but the data are not
			sufficient for classification
Terpenes and terpenoids, sweet orange-oil	Ingestion	Rat	Some positive data exist, but the data are not
			sufficient for classification
D-LIMONENE	Ingestion	Rat	Some positive data exist, but the data are not
			sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure
					Duration
TETRASODIUM	Ingestion	Not classified for female reproduction	Rat	NOAEL 250	4 generation
ETHYLENEDIAMINETETRAACETATE	-			mg/kg/day	-
TETRASODIUM	Ingestion	Not classified for male reproduction	Rat	NOAEL 250	4 generation
ETHYLENEDIAMINETETRAACETATE	-			mg/kg/day	-
TETRASODIUM	Ingestion	Not classified for development	Rat	LOAEL	during
ETHYLENEDIAMINETETRAACETATE	_	_		1,000	gestation

				mg/kg/day	
SODIUM METASILICATE	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
DIPENTENE	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
DIPENTENE	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
Terpenes and terpenoids, sweet orange-oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
Terpenes and terpenoids, sweet orange-oil	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 mg/kg/day	during organogenesis
D-LIMONENE	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	premating & during gestation
D-LIMONENE	Ingestion	Not classified for development	Multiple animal species	NOAEL 591 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
TETRASODIUM	Inhalation	respiratory irritation	Some positive data exist, but the	similar	Irritation	
ETHYLENEDIAMINETE			data are not sufficient for	health	Positive	
TRAACETATE			classification	hazards		
SODIUM	Inhalation	respiratory irritation	May cause respiratory irritation	official	NOAEL Not	
METASILICATE				classifica	available	
				tion		
DIPENTENE	Ingestion	nervous system	Not classified		NOAEL Not	
					available	
BENZYL-C12-18-	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not	
ALKYLDIMETHYL					available	
AMMONIUM						
CHLORIDES						
Terpenes and terpenoids,	Ingestion	nervous system	Not classified		NOAEL Not	
sweet orange-oil					available	
LINALYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the	similar	NOAEL not	
			data are not sufficient for	health	available	
			classification	hazards		
D-LIMONENE	Ingestion	nervous system	Not classified		NOAEL Not	
					available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
TETRASODIUM ETHYLENEDIAMINETE TRAACETATE	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 3 mg/m3	13 weeks
TETRASODIUM ETHYLENEDIAMINETE TRAACETATE	Inhalation	liver heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system eyes kidney and/or bladder vascular system	Not classified	Rat	NOAEL 15 mg/m3	13 weeks
TETRASODIUM	Ingestion	hematopoietic	Not classified	Rat	NOAEL	13 weeks

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TRAACETATE					ma/ka/day	
TETRASODIUM ETHYLENEDIAMINETE TRAACETATE	Ingestion	heart gastrointestinal tract muscles kidney and/or bladder	Not classified	Rat	NOAEL 5,000 mg/kg/day	13 weeks
SODIUM METASILICATE	Ingestion	respiratory system kidney and/or bladder	Some positive data exist, but the data are not sufficient for	Dog	LOAEL 2,400	4 weeks
SODIUM METASILICATE	Ingestion	endocrine system blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
SODIUM METASILICATE	Ingestion	heart liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
DIPENTENE	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
DIPENTENE	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
DIPENTENE	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Terpenes and terpenoids, sweet orange-oil	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks
D-LIMONENE	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 75 mg/kg/day	103 weeks
D-LIMONENE	Ingestion	liver	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
D-LIMONENE	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 600 mg/kg/day	103 weeks

Aspiration Hazard

Name	Value
DIPENTENE	Aspiration hazard
Terpenes and terpenoids, sweet orange-oil	Aspiration hazard
D-LIMONENE	Aspiration hazard

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 labeling, 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 2: Toxic to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Туре	Exposure	Test Endpoint	Test Result
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Atlantic Silverside	Experimental	96 hours	Lethal Concentration 50%	2,000 mg/l
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Bluegill	Experimental	96 hours	Lethal Concentration 50%	1,300 mg/l
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Green Algae	Experimental	96 hours	Effect Concentration 50%	1,101 mg/l
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Water flea	Experimental	48 hours	Effect Concentration 50%	4,950 mg/l
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Green algae	Experimental	96 hours	No obs Effect Conc	100 mg/l
TETRASODIU M ETHYLENEDI AMINETETR AACETATE	64-02-8	Bluegill	Experimental	96 hours	Lethal Concentration 50%	1,030 mg/l
TETRASODIU M ETHYLENEDI AMINETETR AACETATE	64-02-8	Water flea	Experimental	24 hours	Effect Concentration 50%	1,033 mg/l
TETRASODIU M ETHYLENEDI AMINETETR AACETATE	64-02-8	Water flea	Estimated	21 days	No obs Effect Conc	29 mg/l
ETHOXYLAT ED C12-C15 ALCOHOLS	68131-39-5	Diatom	Experimental	72 hours	Effect Concentration 50%	1 mg/l
ETHOXYLAT	68131-39-5	Fathead	Experimental	96 hours	Lethal	0.48 mg/l

ED C12 C15		Minner		1	Componentian	
ALCOHOLS		Minnow			50%	
ETHOXYLAT	68131-39-5	Green algae	Experimental	72 hours	Effect	0.85 mg/l
ED C12-C15			P		Concentration	
ALCOHOLS					50%	
ETHOVYLAT	(0121 20 5	Watan flag	E-m anima antal	40 h a	Dffact	$0.14 m \sigma/1$
ETHOXYLAI	68131-39-5	water fiea	Experimental	48 nours	Effect	0.14 mg/1
ED C12-C15					Concentration	
ALCOHOLS					50%	
ETHOXYLAT	68131-39-5	Diatom	Experimental	72 hours	No obs Effect	0.32 mg/l
ED C12-C15			-		Conc	_
ALCOHOLS						
FTHOXYLAT	68131-39-5	Green algae	Experimental	72 hours	No obs Effect	0.5 mg/l
ED C12-C15	00151 57 5	Green uigue	Experimental	/2 110415	Conc	0.5 mg/1
ALCOHOLS	(0101 00 5		F · / 1	01.1		0.002 /1
ETHOXYLAI	68131-39-5	water flea	Experimental	21 days	No obs Effect	0.083 mg/l
ED C12-C15					Conc	
ALCOHOLS						
SODIUM	6834-92-0	Green algae	Estimated	72 hours	Effect	>345.4 mg/l
METASILICA		_			Concentration	_
TE					50%	
SODIUM	6834-92-0	Zehra Fish	Experimental	96 hours	Lethal	210 mg/l
METASILICA	0051920		Experimental	50 110415	Concentration	210 mg/1
TE						
	(024.02.0		D (1	70.1	50%	24.5 /1
SODIUM	6834-92-0	Green algae	Estimated	72 hours	Effect	34.5 mg/l
METASILICA					Concentration	
TE					10%	
DIPENTENE	Trade Secret	Fathead	Estimated	96 hours	Lethal	0.7 mg/l
		Minnow			Concentration	
					50%	
DIPENTENE	Trade Secret	Water flea	Estimated	48 hours	Effect	0.421 mg/l
DILLITERE	fillade Secret	l'indu	Lotinatea	10 nouis	Concentration	0.121 mg/1
					50%	
DIDENTENIE	Tue de Ceenst	Alass other	E-m anima antal	06 h anna	No also Effect	$4.08 m \sigma/1$
DIPENTENE	Trade Secret	Algae other	Experimental	96 nours	No obs Effect	4.08 mg/1
	- 1 2	~			Conc	
DIPENTENE	Trade Secret	Water flea	Experimental	21 days	No obs Effect	0.27 mg/l
					Conc	
BENZYL-C12-	68391-01-5	Bluegill	Estimated	96 hours	Lethal	0.515 mg/l
18-					Concentration	C
ALKYLDIME					50%	
THYL						
CHLOKIDES	(0201.01.5		D (1	70.1	D.CC /	0.040 /1
BENZYL-CI2-	68391-01-5	Green Algae	Estimated	/2 hours	Effect	0.049 mg/l
18-					Concentration	
ALKYLDIME					50%	
THYL						
AMMONIUM						
CHLORIDES						
BENZYL-C12-	68391-01-5	Water flea	Estimated	48 hours	Effect	0.0058 mg/l
18-					Concentration	
ALKYI DIME					50%	
THVI						
CHLOKIDES						
BENZYL-C12-	68391-01-5	Fathead	Estimated	28 days	No obs Effect	0.0322 mg/l

ALKYLDIME THYL AMMONIUM CHLORIDES Rem Algae Fstimated 72 hours Effect Concentration 10% 0.009 mg/l BENZYL-C12- 68391-01-5 Green Algae Estimated 72 hours Effect Concentration 0.00415 mg/l BENZYL-C12- 68391-01-5 Water flea Estimated 21 days No obs Effect Conc 0.00415 mg/l RENZYL-C12- 68391-01-5 Water flea Estimated 21 days No obs Effect Conc 0.00415 mg/l ALKYLDIME THYL AMMONIUM CHLORIDES Data not ammonium compounds, C12-14- etprenes and Promehylfam Data not available or insufficient for classification 21 days No obs Effect Conc 0.00415 mg/l Itrapels can be empounds, C12-14- ethyl, chorides Trade Secret Data not available or insufficient for classification Promehylfam ethyl, chorides Frade Secret Data not available or insufficient for classification Promehylfam ILMALYL TREPENDS Trade Secret Data not available or insufficient for classification Promehylfam ILMALYL ALCOHOL 78-70-6 Green Algae Experimental 72 hours Effect Concentration 50% >34 mg/l ILNALYL ALCOHOL 78-70-6 Green Algae Experimental 96 hours Lefhal Concentratio	18-		Minnow			Conc	
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LINALYL ALCOHOL78-70-6Green Algae Green AlgaeExperimental Experimental72 hoursNo obs Effect Conc5.6 mg/lLINALYL ALCOHOL78-70-6Water fleaExperimental Experimental21 daysNo obs Effect Conc9.5 mg/lALCOHOL78-70-6Water fleaExperimental Experimental21 daysNo obs Effect Conc9.5 mg/lHEXYLENE GLYCOLTrade SecretGreen AlgaeEstimated72 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretFathead MinnowExperimental Experimental96 hoursLethal Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental Experimental48 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretGreen AlgaeExperimental Experimental72 hoursNo obs Effect Concentration 50%>100 mg/l	ALCOHOL					Concentration	
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LINALYL ALCOHOL78-70-6Water fleaExperimental21 daysNo obs Effect Conc9.5 mg/lHEXYLENE GLYCOLTrade SecretGreen AlgaeEstimated72 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretFathead MinnowExperimental96 hoursLethal Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental48 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental48 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretGreen AlgaeExperimental72 hoursNo obs Effect Concentration 50%>100 mg/l	ALCOHOL					Conc	
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HEXYLENE GLYCOLTrade SecretGreen AlgaeEstimated72 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretFathead MinnowExperimental96 hoursLethal Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental96 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental48 hoursEffect Concentration 50%>100 mg/lHEXYLENE HEXYLENETrade SecretGreen AlgaeExperimental72 hoursNo obs Effect No obs Effect>100 mg/l	ALCOHOL					Conc	
GLYCOL Concentration HEXYLENE Trade Secret Fathead GLYCOL Trade Secret Fathead Minnow Experimental 96 hours Lethal Concentration 50% HEXYLENE Trade Secret Water flea Experimental 48 hours Effect GLYCOL Trade Secret Water flea Experimental 48 hours Effect >100 mg/l HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l	HEXYLENE	Trade Secret	Green Algae	Estimated	72 hours	Effect	>100 mg/l
HEXYLENE GLYCOLTrade SecretFathead MinnowExperimental96 hoursLethal Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretWater fleaExperimental48 hoursEffect Concentration 50%>100 mg/lHEXYLENE GLYCOLTrade SecretGreen AlgaeExperimental72 hoursNo obs Effect >100 mg/l	GLYCOL		-			Concentration	-
HEXYLENE GLYCOL Trade Secret Fathead Minnow Experimental 96 hours Lethal Concentration 50% >100 mg/l HEXYLENE GLYCOL Trade Secret Water flea Experimental 48 hours Effect Concentration 50% >100 mg/l HEXYLENE GLYCOL Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l						50%	
GLYCOL Minnow Concentration HEXYLENE Trade Secret Water flea Experimental 48 hours Effect >100 mg/l GLYCOL Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l	HEXYLENE	Trade Secret	Fathead	Experimental	96 hours	Lethal	>100 mg/l
HEXYLENE Trade Secret Water flea Experimental 48 hours Effect >100 mg/l HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l	GLYCOL		Minnow	-		Concentration	-
HEXYLENE GLYCOL Trade Secret Water flea Experimental 48 hours Effect Concentration 50% >100 mg/l HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l						50%	
GLYCOL Concentration HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l	HEXYLENE	Trade Secret	Water flea	Experimental	48 hours	Effect	>100 mg/l
HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l	GLYCOL					Concentration	
HEXYLENE Trade Secret Green Algae Experimental 72 hours No obs Effect >100 mg/l						50%	
	HEXYLENE	Trade Secret	Green Algae	Experimental	72 hours	No obs Effect	>100 mg/l

GLYCOL					Conc	
HEXYLENE	Trade Secret	Water flea	Experimental	21 days	No obs Effect	25 mg/l
GLYCOL			1		Conc	
2-	101-86-0	Green Algae	Estimated	72 hours	Effect	>1.5 mg/l
(PHENYLME					Concentration	U U
THYLENE)OC					50%	
TANAL						
2-	101-86-0	Ricefish	Estimated	96 hours	Lethal	0.91 mg/l
(PHENYLME					Concentration	
THYLENE)OC					50%	
TANAL						
2-	101-86-0	Water flea	Estimated	48 hours	Effect	0.28 mg/l
(PHENYLME					Concentration	
THYLENE)OC					50%	
TANAL						
2-	101-86-0	Green Algae	Estimated	72 hours	No obs Effect	0.21 mg/l
(PHENYLME					Conc	
THYLENE)OC						
TANAL						
2-	101-86-0	Water flea	Estimated	21 days	No obs Effect	0.014 mg/l
(PHENYLME					Conc	
THYLENE)OC						
TANAL						
6-Octenenitrile,	Trade Secret	Golden Orfe	Experimental	96 hours	Lethal	31.58 mg/l
3,7-dimethyl-					Concentration	
					50%	
6-Octenenitrile,	Trade Secret	Water flea	Experimental	48 hours	Effect	12.1 mg/l
3,7-dimethyl-					Concentration	
					50%	
6-Octenenitrile,	Trade Secret	Green Algae	Unknown	72 hours	Effect	14.5 mg/l
3,7-dimethyl-					Concentration	
					50%	
D-LIMONENE	5989-27-5	Fathead	Experimental	96 hours	Lethal	0.702 mg/l
		Minnow			Concentration	
					50%	
D-LIMONENE	5989-27-5	Green Algae	Experimental	72 hours	Effect	0.32 mg/l
					Concentration	
		7			50%	
D-LIMONENE	5989-27-5	Water flea	Experimental	48 hours	Effect	0.307 mg/l
					Concentration	
	5000 05 5		T	50.1	50%	0.154 //
D-LIMONENE	5989-27-5	Green Algae	Experimental	72 hours	Effect	0.1/4 mg/l
					Concentration	
D I D (O)ENE	5000 27 5	NV (C	F 1	01.1		0.00 //
D-LIMONENE	5989-27-5	water flea	Experimental	21 days	No obs Effect	0.08 mg/l
.	Trade Const		E	72.1		> 0 954
rragrance	Trade Secret	Green Algae	Experimental	12 nours	Concentration	-0.854 mg/1
Fragrance	Trade Sacrat	Dioafich	Evnerimental	06 hours	L athal	0.05 mg/1
ragrance			Experimental	PO HOUIS	Concentration	0.95 1119/1
					50%	
Fragrance	Trada Saarat	Water floo	Experimente ¹	18 hours	Effect	0.3 mg/l
ragrance		water nea	Experimental		Concentration	0.3 mg/1
					50%	
1	1	1		1	100/0	1

3MTM TB Quat Disinfectant Ready-To-Use Cleaner

Fragrance	Trade Secret	Fathead	Experimental	36 days	No obs Effect	0.068 mg/l
		Minnow			Conc	
Fragrance	Trade Secret	Green Algae	Experimental	72 hours	No obs Effect Conc	0.201 mg/l
Fragrance	Trade Secret	Water flea	Experimental	21 days	No obs Effect Conc	0.111 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Experimental Biodegradation	28 days	Biological Oxygen Demand	92 % BOD/ThBOD	OECD 301C - MITI (I)
TETRASODIU M ETHYLENEDI AMINETETR AACETATE	64-02-8	Estimated Biodegradation	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 301D - Closed Bottle Test
ETHOXYLAT ED C12-C15 ALCOHOLS	68131-39-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	64-79 % weight	Other methods
SODIUM METASILICA TE	6834-92-0	Data not availbl- insufficient			N/A	
DIPENTENE	Trade Secret	Experimental Biodegradation	14 days	Biological Oxygen Demand	73 % BOD/ThBOD	OECD 301C - MITI (I)
BENZYL-C12- 18- ALKYLDIME THYL AMMONIUM CHLORIDES	68391-01-5	Estimated Biodegradation	28 days	Carbon dioxide evolution	95.5 % weight	OECD 301B - Mod. Sturm or CO2
Quaternary ammonium compounds, C12-14- alkyl[(ethylphe nyl)methyl]dim ethyl, chlorides	85409-23-0	Data not availbl- insufficient			N/A	
Terpenes and terpenoids, sweet orange- oil	Trade Secret	Data not availbl- insufficient			N/A	
TERPENES AND TERPENOIDS, LIME-OIL	Trade Secret	Data not availbl- insufficient			N/A	
LINALYL ALCOHOL	78-70-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	80 % weight	OECD 301C - MITI (I)
HEXYLENE GLYCOL	Trade Secret	Estimated Photolysis		Photolytic half- life (in air)	2.1 days (t 1/2)	Other methods
HEXYLENE	Trade Secret	[Experimental	15 days	Percent	75 % weight	Other methods

GLYCOL		Biodegradation		degraded		
2-	101-86-0	Estimated		Photolytic half-	7 hours (t 1/2)	Other methods
(PHENYLME		Photolysis		life (in air)		
THYLENE)OC						
TANAL						
2-	101-86-0	Experimental	28 days	Biological	97 %	OECD 301F -
(PHENYLME		Biodegradation		Oxygen	BOD/ThBOD	Manometric Respiro
THYLENE)OC				Demand		
TANAL						
6-Octenenitrile,	Trade Secret	Experimental	28 days	Biological	69 %	OECD 301F -
3,7-dimethyl-		Biodegradation		Oxygen	BOD/ThBOD	Manometric Respiro
				Demand		
D-LIMONENE	5989-27-5	Experimental	14 days	Biological	98 %	OECD 301C - MITI (I)
		Biodegradation		Oxygen	BOD/ThBOD	
				Demand		
Fragrance	Trade Secret	Experimental		Photolytic half-	1.12 days (t	Other methods
		Photolysis		life (in air)	1/2)	
Fragrance	Trade Secret	Experimental	28 days	Carbon dioxide	0 % weight	OECD 301B - Mod.
		Biodegradation		evolution	_	Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
DIETHYLENE GLYCOL BUTYL ETHER	112-34-5	Experimental Bioconcentrati on		Log of Octanol/H2O part. coeff	1	Other methods
TETRASODIU M ETHYLENEDI AMINETETR AACETATE	64-02-8	Estimated BCF - Bluegill	28 days	Bioaccumulatio n Factor	1.8	Bioconcentration: Flow-through
ETHOXYLAT ED C12-C15 ALCOHOLS	68131-39-5	Experimental BCF-Carp	72 hours	Bioaccumulatio n Factor	310	Other methods
SODIUM METASILICA TE	6834-92-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DIPENTENE	Trade Secret	Estimated Bioconcentrati on		Bioaccumulatio n Factor	1500	Est: Bioconcentration factor
BENZYL-C12- 18- ALKYLDIME THYL AMMONIUM CHLORIDES	68391-01-5	Estimated BCF - Bluegill	60 days	Bioaccumulatio n Factor	33	Other methods
Quaternary ammonium compounds, C12-14- alkyl[(ethylphe nyl)methyl]dim ethyl, chlorides	85409-23-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Terpenes and	Trade Secret	Data not	N/A	N/A	N/A	N/A
terpenoids,		available or				
sweet orange-		insufficient for				
oil		classification				
TERPENES	Trade Secret	Data not	N/A	N/A	N/A	N/A
AND		available or				
TERPENOIDS,		insufficient for				
LIME-OIL		classification				
LINALYL	78-70-6	Experimental		Log of	2.97	Other methods
ALCOHOL		Bioconcentrati		Octanol/H2O		
		on		part. coeff		
HEXYLENE	Trade Secret	Estimated		Log of	0.58	Est: Octanol-water part.
GLYCOL		Bioconcentrati		Octanol/H2O		coeff
		on		part. coeff		
2-	101-86-0	Experimental		Log of	5.3	Other methods
(PHENYLME		Bioconcentrati		Octanol/H2O		
THYLENE)OC		on		part. coeff		
TANAL				-		
6-Octenenitrile,	Trade Secret	Experimental		Log of	3.1	Other methods
3,7-dimethyl-		Bioconcentrati		Octanol/H2O		
		on		part. coeff		
D-LIMONENE	5989-27-5	Estimated		Bioaccumulatio	2100	Est: Bioconcentration
		Bioconcentrati		n Factor		factor
		on				
Fragrance	Trade Secret	Experimental	28 days	Bioaccumulatio	1584	OECD 305E-Bioaccum
		BCF - Bluegill		n Factor		Fl-thru fis

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

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)

UN Number:None assigned. Proper Shipping Name:None assigned. Technical Name:None assigned. Hazard Class/Division:None assigned. Subsidiary Risk:None assigned. Packing Group:None assigned. Limited Quantity:None assigned. Marine Pollutant: None assigned. Marine Pollutant Technical Name: None assigned. Other Dangerous Goods Descriptions: None assigned.

Air Transport (IATA)

UN Number:None assigned. Proper Shipping Name:None assigned. Technical Name:None assigned. Hazard Class/Division:None assigned. Subsidiary Risk:None assigned. Packing Group:None assigned. Limited Quantity:None assigned. Marine Pollutant: None assigned. Marine Pollutant Technical Name: None assigned. Other Dangerous Goods Descriptions: None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Malaysia SDSs are available at www.3M.com.my