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™ Perfect-It™ EX AC Rubbing Compound, 36057, 36058, 36060, 36061, 36062, 36063

1.2. Recommended use and restrictions on use

Recommended use
Automotive

For Industrial or Professional use only

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, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: 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
Skin Sensitizer: Category 1.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements:

H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

General:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Prevention:

P280E	Wear protective gloves.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

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

2.3. Other hazards

Aspiration classification does not apply due to the viscosity of the product.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Water	7732-18-5	40 - 70
Aluminum Oxide	1344-28-1	10 - 30
Hydrotreated Light Petroleum Distillates	64742-47-8	10 - 30
White Mineral Oil (Petroleum)	8042-47-5	1 - 5
Fatty Organic Compound	Trade Secret	< 1
Alcohols, C10-16	67762-41-8	<= 1
2-Methyl-4-isothiazoline-3-one	2682-20-4	< 0.01
Octylisothiazolinone	26530-20-1	< 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:

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

Allergic skin reaction (redness, swelling, blistering, and itching).

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

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
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.

Hazardous Decomposition or By-Products

Substance	Condition
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build 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 an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. 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
Keep out of reach of children. Avoid breathing 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. Contaminated work

clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

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	C.A.S. No.	Agency	Limit type	Additional Comments
Aluminum Oxide	1344-28-1	Malaysia OELs	TWA (proposed)(8 hours):10 mg/m3	
OIL MIST, MINERAL	8042-47-5	Malaysia OELs	TWA(as mist)(8 hours):5 mg/m3	

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:
Safety Glasses with side shields

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

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

Respiratory protection

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

Half facepiece or full facepiece 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
Color	White
Odor	Slight Hydrocarbon
Odor threshold	*No Data Available*
pH	7.5 - 9
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*No Data Available*
Flash Point	No flash point
Evaporation rate	*No Data Available*
Flammability	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density and/or Relative Vapor Density	*No Data Available*
Density	1.1 - 1.1 kg/l
Relative Density	1.05 - 1.1 [*Ref Std:*WATER=1]
Water solubility	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Kinematic Viscosity	30,233 mm2/sec
Volatile Organic Compounds	16.2 % weight [*Test Method:*calculated per CARB title 2]
Percent volatile	77.5 % weight
VOC Less H2O & Exempt Solvents	498 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*Not Applicable*

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 polymerization 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 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. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Dust created by cutting, grinding, sanding, or machining may cause 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.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Hydrotreated Light Petroleum Distillates	Ingestion	Rat	LD50 > 15,000 mg/kg
Hydrotreated Light Petroleum Distillates	Dermal	similar compounds	LD50 > 5,000 mg/kg
Aluminum Oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminum Oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
White Mineral Oil (Petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
White Mineral Oil (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Fatty Organic Compound	Ingestion	Rat	LD50 > 2,000 mg/kg
Fatty Organic Compound	Dermal	similar	LD50 > 5,000 mg/kg

		compounds	
Fatty Organic Compound	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 17.5 mg/l
Alcohols, C10-16	Dermal	Rat	LD50 > 2,000 mg/kg
Alcohols, C10-16	Ingestion	Rat	LD50 > 2,000 mg/kg
2-Methyl-4-isothiazoline-3-one	Dermal	Rat	LD50 242 mg/kg
2-Methyl-4-isothiazoline-3-one	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.11 mg/l
2-Methyl-4-isothiazoline-3-one	Ingestion	Rat	LD50 120 mg/kg
Octylisothiazolinone	Dermal	Rabbit	LD50 311 mg/kg
Octylisothiazolinone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.27 mg/l
Octylisothiazolinone	Ingestion	Rat	LD50 125 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydrotreated Light Petroleum Distillates	similar compounds	Mild irritant
Aluminum Oxide	Rabbit	No significant irritation
White Mineral Oil (Petroleum)	Rabbit	No significant irritation
Fatty Organic Compound	Human	No significant irritation
Alcohols, C10-16	Rabbit	Mild irritant
2-Methyl-4-isothiazoline-3-one	Rabbit	Corrosive
Octylisothiazolinone	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Hydrotreated Light Petroleum Distillates	similar compounds	No significant irritation
Aluminum Oxide	Rabbit	No significant irritation
White Mineral Oil (Petroleum)	Rabbit	Mild irritant
Fatty Organic Compound	Rabbit	Severe irritant
Alcohols, C10-16	Rabbit	Mild irritant
2-Methyl-4-isothiazoline-3-one	Rabbit	Corrosive
Octylisothiazolinone	similar health hazards	Corrosive

Sensitization:

Skin Sensitization

Name	Species	Value
Hydrotreated Light Petroleum Distillates	similar compounds	Not classified
White Mineral Oil (Petroleum)	Guinea pig	Not classified
Fatty Organic Compound	Guinea pig	Not classified
Alcohols, C10-16	Guinea pig	Not classified
2-Methyl-4-isothiazoline-3-one	Human and animal	Sensitizing

Octylisothiazolinone	Human and animal	Sensitizing

Photosensitization

Name	Species	Value
2-Methyl-4-isothiazoline-3-one	Human and animal	Not 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
Hydrotreated Light Petroleum Distillates	In Vitro	Not mutagenic
Aluminum Oxide	In Vitro	Not mutagenic
White Mineral Oil (Petroleum)	In Vitro	Not mutagenic
Fatty Organic Compound	In Vitro	Not mutagenic
Fatty Organic Compound	In vivo	Not mutagenic
Alcohols, C10-16	In Vitro	Not mutagenic
2-Methyl-4-isothiazoline-3-one	In vivo	Not mutagenic
2-Methyl-4-isothiazoline-3-one	In Vitro	Some positive data exist, but the data are not sufficient for classification
Octylisothiazolinone	In Vitro	Not mutagenic
Octylisothiazolinone	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide	Inhalation	Rat	Not carcinogenic
White Mineral Oil (Petroleum)	Dermal	Mouse	Not carcinogenic
White Mineral Oil (Petroleum)	Inhalation	Multiple animal species	Not carcinogenic
2-Methyl-4-isothiazoline-3-one	Dermal	Mouse	Not carcinogenic
2-Methyl-4-isothiazoline-3-one	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
White Mineral Oil (Petroleum)	Ingestion	Not classified for female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not classified for male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not classified for development	Rat	NOAEL 4,350 mg/kg/day	during gestation
Fatty Organic Compound	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	premating into lactation
Fatty Organic Compound	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	41 days
Fatty Organic Compound	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	premating into lactation
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for female reproduction	Rat	NOAEL 10	2 generation

				mg/kg/day	
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
2-Methyl-4-isothiazoline-3-one	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during organogenesis
Octylisothiazolinone	Ingestion	Not classified for development	Rabbit	NOEL 20 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
Hydrotreated Light Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Fatty Organic Compound	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Alcohols, C10-16	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2-Methyl-4-isothiazoline-3-one	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
Octylisothiazolinone	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydrotreated Light Petroleum Distillates	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	hematopoietic system | eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Aluminum Oxide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminum Oxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
White Mineral Oil (Petroleum)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,381 mg/kg/day	90 days
White Mineral Oil (Petroleum)	Ingestion	liver | immune system	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
Alcohols, C10-16	Ingestion	kidney and/or bladder | heart | endocrine system | liver | nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

Name	Value
Hydrotreated Light Petroleum Distillates	Aspiration hazard

White Mineral Oil (Petroleum)	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:
GHS Chronic 3: Harmful to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Aluminum Oxide	1344-28-1	Fish	Experimental	96 hours	LC50	>100 mg/l
Aluminum Oxide	1344-28-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Aluminum Oxide	1344-28-1	Water flea	Experimental	48 hours	LC50	>100 mg/l
Aluminum Oxide	1344-28-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Rainbow Trout	Experimental	96 hours	LL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Hydrotreated Light Petroleum Distillates	64742-47-8	Green algae	Experimental	72 hours	NOEL	1,000 mg/l
White Mineral Oil (Petroleum)	8042-47-5	Water flea	Analogous Compound	48 hours	EL50	>100 mg/l
White Mineral Oil (Petroleum)	8042-47-5	Bluegill	Experimental	96 hours	LL50	>100 mg/l
White Mineral Oil (Petroleum)	8042-47-5	Green algae	Analogous Compound	72 hours	NOEL	100 mg/l
White Mineral Oil (Petroleum)	8042-47-5	Water flea	Analogous Compound	21 days	NOEL	>100 mg/l
Alcohols, C10-16	67762-41-8	Green algae	Analogous Compound	72 hours	ErC50	0.66 mg/l
Alcohols, C10-16	67762-41-8	Rainbow Trout	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Alcohols, C10-16	67762-41-8	Water flea	Experimental	48 hours	EC50	0.23 mg/l
Alcohols, C10-16	67762-41-8	Green algae	Analogous Compound	72 hours	NOEC	0.085 mg/l
Fatty Organic Compound	Trade Secret	Ciliated protozoa	Experimental	48 hours	IC50	1.58 mg/l
Fatty Organic Compound	Trade Secret	Fathead Minnow	Experimental	96 hours	LC50	1.01 mg/l
Fatty Organic Compound	Trade Secret	Green algae	Experimental	72 hours	ErC50	0.66 mg/l
Fatty Organic	Trade Secret	Water flea	Experimental	48 hours	EC50	0.765 mg/l

Compound						
Fatty Organic Compound	Trade Secret	Green algae	Experimental	72 hours	NOEC	0.085 mg/l
Fatty Organic Compound	Trade Secret	Water flea	Experimental	21 days	NOEC	0.014 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Diatom	Experimental	72 hours	ErC50	0.099 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Green algae	Experimental	96 hours	ErC50	0.23 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Mysid Shrimp	Experimental	96 hours	LC50	1.81 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Sheepshead Minnow	Experimental	96 hours	LC50	25.1 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Water flea	Experimental	48 hours	LC50	0.934 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Blackworm	Experimental	28 days	NOEC	25 mg/kg (Dry Weight)
2-Methyl-4-isothiazoline-3-one	2682-20-4	Diatom	Experimental	72 hours	ErC10	0.04 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Fathead Minnow	Experimental	33 days	NOEC	2.1 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Green algae	Experimental	96 hours	NOEC	0.12 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Water flea	Experimental	21 days	NOEC	0.044 mg/l
2-Methyl-4-isothiazoline-3-one	2682-20-4	Activated sludge	Experimental	3 hours	EC50	41 mg/l
Octylisothiazolinone	26530-20-1	Diatom	Experimental	72 hours	EC50	0.0015 mg/l
Octylisothiazolinone	26530-20-1	Green algae	Experimental	72 hours	EC50	0.084 mg/l
Octylisothiazolinone	26530-20-1	Mysid Shrimp	Experimental	96 hours	LC50	0.071 mg/l
Octylisothiazolinone	26530-20-1	Rainbow Trout	Experimental	96 hours	LC50	0.036 mg/l
Octylisothiazolinone	26530-20-1	Sheepshead Minnow	Experimental	96 hours	LC50	0.18 mg/l
Octylisothiazolinone	26530-20-1	Water flea	Experimental	48 hours	EC50	0.42 mg/l
Octylisothiazolinone	26530-20-1	Diatom	Experimental	72 hours	NOEC	0.00068 mg/l
Octylisothiazolinone	26530-20-1	Green algae	Experimental	72 hours	NOEC	0.0156 mg/l
Octylisothiazolinone	26530-20-1	Water flea	Experimental	21 days	NOEC	0.0016 mg/l
Octylisothiazolinone	26530-20-1	Activated sludge	Experimental	3 hours	EC50	30.4 mg/l
Octylisothiazolinone	26530-20-1	Bobwhite quail	Experimental	14 days	LD50	384 ppm diet
Octylisothiazolinone	26530-20-1	Lettuce	Experimental	17 days	EC50	45 mg/kg (Dry Weight)
Octylisothiazolinone	26530-20-1	Redworm	Experimental	14 days	LC50	866 mg/kg (Dry Weight)
Octylisothiazolinone	26530-20-1	Soil microbes	Experimental	28 days	EC50	84.1 mg/kg (Dry Weight)

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Aluminum Oxide	1344-28-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Hydrotreated Light	64742-47-8	Estimated	28 days	Biological Oxygen	69 %BOD/ThOD	OECD 301F - Manometric

Petroleum Distillates		Biodegradation		Demand		Respiro
White Mineral Oil (Petroleum)	8042-47-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
Alcohols, C10-16	67762-41-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	≥80 %BOD/ThOD	OECD 301F - Manometric Respiro
Alcohols, C10-16	67762-41-8	Experimental Photolysis		Photolytic half-life (in air)	2.2 days (t 1/2)	
Fatty Organic Compound	Trade Secret	Experimental Biodegradation	28 days	Biological Oxygen Demand	100 %BOD/COD	
2-Methyl-4-isothiazoline-3-one	2682-20-4	Experimental Biodegradation	29 days	Carbon dioxide evolution	50 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
2-Methyl-4-isothiazoline-3-one	2682-20-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
Octylisothiazolinone	26530-20-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	< 10 %BOD/ThOD	OECD 301D - Closed Bottle Test
Octylisothiazolinone	26530-20-1	Experimental Aquatic Inherent Biodegrad.	59 days	Dissolv. Organic Carbon Deplet	88 %removal of DOC	OECD 303A - Simulated Aerobic

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Aluminum Oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrotreated Light Petroleum Distillates	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
White Mineral Oil (Petroleum)	8042-47-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Alcohols, C10-16	67762-41-8	Modeled Bioconcentration		Bioaccumulation Factor	117	Catalogic™
Alcohols, C10-16	67762-41-8	Modeled Bioconcentration		Bioaccumulation Factor	661	Catalogic™
Alcohols, C10-16	67762-41-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	4.8	
Fatty Organic Compound	Trade Secret	Modeled Bioconcentration		Bioaccumulation Factor	117	Catalogic™
Fatty Organic Compound	Trade Secret	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	5.13	
2-Methyl-4-isothiazoline-3-one	2682-20-4	Analogous Compound BCF - Fish	56 days	Bioaccumulation Factor	5.75	
2-Methyl-4-isothiazoline-3-one	2682-20-4	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.486	OECD 107 log Kow shke flsk mtd
Octylisothiazolinone	26530-20-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.92	OECD 117 log Kow HPLC method

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

Not hazardous for transportation.

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 Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements 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 in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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