Safety Data Sheet

This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier
3M™ Super Duty Rubbing Compound, 5954, 5955, 5956, 39004, 59002

1.2. Recommended use and restrictions on use

Recommended use
Automotive., Painted surface defect repair

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Carcinogenicity: Category 1A.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
SIGNAL WORD
DANGER!

Symbols
Health Hazard |

Pictograms

HAZARD STATEMENTS

H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.

Response:

P308 + P313	IF exposed or concerned: Get medical advice/attention.

Storage:

P405	Store locked up.

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	CAS Nbr	% by Wt
Quartz	14808-60-7	15 - 40
Water	7732-18-5	10 - 30
Kerosene	8008-20-6	< 15
Aluminium oxide	1344-28-1	3 - 7
Light Aromatic Hydrocarbons	64742-47-8	< 5
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	1 - 5
Proprietary Components	Trade Secret	1 - 5
Oleic Acid	112-80-1	< 2
Pine oil	8002-09-3	< 2
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	0.5 - 1.5
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	< 1.5
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	< 1.5
Naphthalene	91-20-3	< 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
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

Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
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.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	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. 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. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Cover spill area with a fire-extinguishing foam. 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
Do not use in a confined area with minimal air exchange. Keep out of reach of children. 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. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) 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 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
Aluminium oxide	1344-28-1	Singapore PELs	TWA(8 hours):10 mg/m3	
Quartz	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Quartz	14808-60-7	Singapore PELs	TWA(as respirable dust)(8 hours):0.1 mg/m3	
Oil mist mineral	64742-55-8	Singapore PELs	TWA(as mist)(8 hours):5 mg/m3;STEL(as mist)(15 minutes):10 mg/m3	
Oil mist mineral	64742-56-9	Singapore PELs	TWA(as mist)(8 hours):5 mg/m3;STEL(as mist)(15 minutes):10 mg/m3	
Oil mist mineral	64742-65-0	Singapore PELs	TWA(as mist)(8 hours):5 mg/m3;STEL(as mist)(15 minutes):10 mg/m3	
Kerosene	8008-20-6	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Naphthalene	91-20-3	ACGIH	TWA:10 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
Naphthalene	91-20-3	Singapore PELs	TWA(8 hours):52 mg/m3(10 ppm);STEL(15 minutes):79 mg/m3(15 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
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
None required.

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, including oily mists

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:	Emulsion
Color	Brown
Odor	Petroleum
Odour threshold	*No data available.*
pH	7.5 - 8.5
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	> 35 ºC
Flash point	71.1 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	1.33 g/ml
Relative density	1.33 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	14,000 mPa-s - 18,000 mPa-s
Volatile organic compounds (VOC)	291 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Volatile organic compounds (VOC)	15.9 % weight [*Test Method:*calculated per CARB title 2]
Percent volatile	48.1 % weight [*Test Method:*Estimated]
VOC less H2O & exempt solvents	447 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*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
Heat.

10.5 Incompatible materials
Strong acids.
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. May cause additional health effects (see below).

Skin contact
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. May cause additional health effects (see below).

Eye contact
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Silicosis: Signs/symptoms may include breathlessness, weakness, chest pain, persistent cough, increased amounts of sputum, and heart disease.

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

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Quartz	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz	Ingestion		LD50 estimated to be > 5,000 mg/kg
Kerosene	Dermal	Rabbit	LD50 > 2,000 mg/kg
Kerosene	Inhalation-Vapor (4 hours)	Rat	LC50 > 5 mg/l
Kerosene	Ingestion	Rat	LD50 > 5,000 mg/kg
Aluminium oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminium oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Solvent dewaxed heavy paraffinic distillate (petroleum)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Solvent dewaxed heavy paraffinic distillate (petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Solvent dewaxed heavy paraffinic distillate (petroleum)	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 4 mg/l
Light Aromatic Hydrocarbons	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.4 mg/l
Light Aromatic Hydrocarbons	Dermal	similar compounds	LD50 > 5,000 mg/kg
Light Aromatic Hydrocarbons	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Oleic Acid	Dermal	Guinea pig	LD50 > 3,000 mg/kg
Oleic Acid	Ingestion	Rat	LD50 57,000 mg/kg
Pine oil	Dermal	Rat	LD50 > 2,000 mg/kg
Pine oil	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.76 mg/l
Pine oil	Ingestion	Rat	LD50 > 2,000 mg/kg
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Dermal	Rabbit	LD50 > 5,000 mg/kg

Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4 mg/l
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Hydrotreated light paraffinic distillates (petroleum)	Dermal	similar compounds	LD50 > 2,000 mg/kg
Hydrotreated light paraffinic distillates (petroleum)	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 5.53 mg/l
Hydrotreated light paraffinic distillates (petroleum)	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Polyethylene Glycol Sorbitan Monooleate	Dermal	Not available	LD50 > 5,000 mg/kg
Polyethylene Glycol Sorbitan Monooleate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
Polyethylene Glycol Sorbitan Monooleate	Ingestion	Rat	LD50 20,000 mg/kg
Naphthalene	Dermal	Human	LD50 estimated to be 2,000 - 5,000 mg/kg
Naphthalene	Inhalation-Vapor	Human	LC50 estimated to be 20 - 50 mg/l
Naphthalene	Ingestion	Human	LD50 estimated to be 300 - 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Quartz	Professional judgement	No significant irritation
Kerosene	Rabbit	Minimal irritation
Aluminium oxide	Rabbit	No significant irritation
Solvent dewaxed heavy paraffinic distillate (petroleum)	Rabbit	No significant irritation
Light Aromatic Hydrocarbons	similar compounds	Mild irritant
Oleic Acid	Rabbit	Minimal irritation
Pine oil	Rabbit	Irritant
Hydrotreated light paraffinic distillates (petroleum)	similar compounds	No significant irritation
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Rabbit	Minimal irritation
Polyethylene Glycol Sorbitan Monooleate	Rabbit	No significant irritation
Naphthalene	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Kerosene	Rabbit	No significant irritation
Aluminium oxide	Rabbit	No significant irritation
Solvent dewaxed heavy paraffinic distillate (petroleum)	Rabbit	No significant irritation
Light Aromatic Hydrocarbons	similar compounds	No significant irritation
Oleic Acid	Rabbit	Mild irritant
Pine oil	Rabbit	Moderate irritant
Hydrotreated light paraffinic distillates (petroleum)	similar compounds	No significant irritation
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Rabbit	No significant irritation
Polyethylene Glycol Sorbitan Monooleate	Rabbit	No significant irritation
Naphthalene	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Kerosene	Guinea pig	Not classified
Solvent dewaxed heavy paraffinic distillate (petroleum)	Guinea pig	Not classified
Light Aromatic Hydrocarbons	similar compounds	Not classified
Pine oil	Human and animal	Not classified
Hydrotreated light paraffinic distillates (petroleum)	similar compounds	Not classified
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Guinea pig	Not classified
Polyethylene Glycol Sorbitan Monooleate	Guinea pig	Not classified

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
Quartz	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz	In vivo	Some positive data exist, but the data are not sufficient for classification
Kerosene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Kerosene	In vivo	Some positive data exist, but the data are not sufficient for classification
Aluminium oxide	In Vitro	Not mutagenic
Solvent dewaxed heavy paraffinic distillate (petroleum)	In Vitro	Not mutagenic
Light Aromatic Hydrocarbons	In Vitro	Not mutagenic
Oleic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification
Pine oil	In Vitro	Not mutagenic
Hydrotreated light paraffinic distillates (petroleum)	In Vitro	Not mutagenic
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	In vivo	Not mutagenic
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol Sorbitan Monooleate	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Quartz	Inhalation	Human and animal	Carcinogenic.
Kerosene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Aluminium oxide	Inhalation	Rat	Not carcinogenic
Solvent dewaxed heavy paraffinic distillate (petroleum)	Dermal	Mouse	Not carcinogenic
Oleic Acid	Dermal	Mouse	Not carcinogenic
Oleic Acid	Ingestion	Rat	Not carcinogenic
Oleic Acid	Not specified.	Multiple animal species	Not carcinogenic
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Dermal	Mouse	Some positive data exist, but the data are not

			sufficient for classification
Polyethylene Glycol Sorbitan Monooleate	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Naphthalene	Inhalation	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Kerosene	Dermal	Not classified for female reproduction	Rat	NOAEL 494 mg/kg/day	premating & during gestation
Kerosene	Dermal	Not classified for male reproduction	Rat	NOAEL 494 mg/kg/day	premating & during gestation
Kerosene	Dermal	Not classified for development	Rat	NOAEL 494 mg/kg/day	premating & during gestation
Kerosene	Inhalation	Not classified for development	Rat	NOAEL 400 ppm	during organogenesis
Solvent dewaxed heavy paraffinic distillate (petroleum)	Dermal	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Pine oil	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	during gestation
Pine oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 250 mg/kg/day	premating into lactation
Pine oil	Ingestion	Toxic to male reproduction	Rat	NOAEL 250 mg/kg/day	5 weeks
Polyethylene Glycol Sorbitan Monooleate	Ingestion	Not classified for female reproduction	Rat	NOAEL 6,666 mg/kg/day	3 generation
Polyethylene Glycol Sorbitan Monooleate	Ingestion	Not classified for male reproduction	Rat	NOAEL 6,666 mg/kg/day	3 generation
Polyethylene Glycol Sorbitan Monooleate	Ingestion	Not classified for development	Rat	NOAEL 5,000 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
Kerosene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL not available	occupational exposure
Kerosene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL not available	not available
Kerosene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL not available	poisoning and/or abuse
Kerosene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL not available	not applicable
Kerosene	Ingestion	liver	Not classified	Rat	LOAEL 18,912 mg/kg	not applicable
Kerosene	Ingestion	heart | hematoppoitic system	Not classified	Human	NOAEL not available	poisoning and/or abuse
Pine oil	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Naphthalene	Ingestion	blood	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Quartz	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Kerosene	Dermal	hematopoietic system	Not classified	Mouse	NOAEL 500 mg/kg/day	13 weeks
Kerosene	Dermal	liver | immune system | kidney and/or bladder	Not classified	Mouse	NOAEL 500 mg/kg/day	2 years
Kerosene	Dermal	nervous system	Not classified	Mouse	NOAEL 2,700 mg/kg/day	1 weeks
Kerosene	Dermal	heart | gastrointestinal tract | muscles | respiratory system	Not classified	Mouse	NOAEL 500 mg/kg/day	2 years
Kerosene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL not available	1 years
Kerosene	Inhalation	liver	Not classified	Rat	NOAEL 0.231 mg/l	14 weeks
Kerosene	Inhalation	heart	Not classified	Guinea pig	LOAEL 20.4 mg/l	not available
Kerosene	Inhalation	gastrointestinal tract | hematopoietic system | muscles | respiratory system	Not classified	Multiple animal species	NOAEL 0.1 mg/l	13 weeks
Aluminium oxide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminium oxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Solvent dewaxed heavy paraffinic distillate (petroleum)	Dermal	skin | liver | hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	13 weeks
Oleic Acid	Ingestion	liver | immune system	Not classified	Rat	NOAEL 2,250 mg/kg/day	108 weeks
Oleic Acid	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 2,550 mg/kg/day	108 weeks
Pine oil	Inhalation	hematopoietic system | eyes | respiratory system	Not classified	Rat	NOAEL 2.23 mg/l	13 weeks
Pine oil	Ingestion	liver | kidney and/or bladder | heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 750 mg/kg/day	5 weeks
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	Dermal	hematopoietic system | liver | kidney and/or bladder	Not classified	Rabbit	NOAEL 5,000 mg/kg/day	3 weeks
Polyethylene Glycol Sorbitan Monooleate	Ingestion	heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver |	Not classified	Rat	NOAEL 4,132 mg/kg/day	90 days

		immune system | nervous system | kidney and/or bladder | respiratory system				
Naphthalene	Dermal	blood	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Dermal	eyes	Not classified	Human	NOAEL Not available	occupational exposure
Naphthalene	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.01 mg/l	13 weeks
Naphthalene	Inhalation	blood	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Inhalation	eyes	Not classified	Human	NOAEL Not available	occupational exposure
Naphthalene	Ingestion	blood	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Naphthalene	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rabbit	LOAEL 500 mg/kg/day	15 days

Aspiration Hazard

Name	Value
Kerosene	Aspiration hazard
Solvent dewaxed heavy paraffinic distillate (petroleum)	Not an aspiration hazard
Light Aromatic Hydrocarbons	Aspiration hazard
Hydrotreated light paraffinic distillates (petroleum)	Aspiration hazard
Solvent Dewaxed Light Paraffinic Distillates (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 labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Quartz	14808-60-7	Green algae	Estimated	72 hours	EC50	440 mg/l
Quartz	14808-60-7	Water flea	Estimated	48 hours	EC50	7,600 mg/l
Quartz	14808-60-7	Zebra Fish	Estimated	96 hours	LC50	5,000 mg/l
Quartz	14808-60-7	Green algae	Estimated	72 hours	NOEC	60 mg/l
Kerosene	8008-20-6	Rainbow trout	Analogous Compound	96 hours	LL50	2 mg/l
Kerosene	8008-20-6	Water flea	Analogous Compound	48 hours	EL50	1.4 mg/l
Kerosene	8008-20-6	Green algae	Experimental	72 hours	EL50	1 mg/l
Kerosene	8008-20-6	Water flea	Analogous	21 days	NOEL	0.48 mg/l

			Compound			
Kerosene	8008-20-6	Green algae	Experimental	72 hours	NOEL	1 mg/l
Aluminium oxide	1344-28-1	N/A	Experimental	96 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Aluminium oxide	1344-28-1	Water flea	Experimental	48 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Green algae	Analogous Compound	72 hours	EL50	>1,000 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Water flea	Analogous Compound	48 hours	EL50	>1,000 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Rainbow trout	Experimental	96 hours	LL50	>788,000 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Scud	Experimental	96 hours	LL50	>10,000 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Green algae	Analogous Compound	72 hours	NOEL	1,000 mg/l
Light Aromatic Hydrocarbons	64742-47-8	Water flea	Analogous Compound	21 days	NOEL	>1 mg/l
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Green algae	Analogous Compound	96 hours	EC50	>100 mg/l
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Water flea	Analogous Compound	48 hours	EC50	>100 mg/l
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Water flea	Experimental	21 days	NOEC	100 mg/l
Oleic Acid	112-80-1	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Pine oil	8002-09-3	Activated sludge	Estimated	28 days	NOEC	25.7 mg/l
Pine oil	8002-09-3	Green algae	Estimated	72 hours	EC50	68 mg/l
Pine oil	8002-09-3	Rainbow trout	Experimental	96 hours	LC50	18.4 mg/l
Pine oil	8002-09-3	Water flea	Experimental	48 hours	EC50	24.5 mg/l
Pine oil	8002-09-3	Green algae	Estimated	72 hours	NOEC	3.9 mg/l
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Fathead minnow	Estimated	96 hours	LL50	>100 mg/l
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Water flea	Estimated	48 hours	EL50	>100 mg/l
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Green algae	Estimated	72 hours	NOEL	100 mg/l
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Water flea	Estimated	21 days	NOEC	10 mg/l
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Green algae	Analogous Compound	72 hours	EL50	58.84 mg/l
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Zebra Fish	Analogous Compound	96 hours	LL50	>100 mg/l
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Green algae	Analogous Compound	72 hours	EL10	19.05 mg/l
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Water flea	Analogous Compound	21 days	NOEL	10 mg/l
Solvent Dewaxed	64742-56-9	Fathead minnow	Estimated	96 hours	LL50	>100 mg/l

Light Paraffinic Distillates (Petroleum)						
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Green algae	Estimated	72 hours	EL50	>100 mg/l
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Water flea	Estimated	48 hours	EL50	>100 mg/l
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Green algae	Estimated	72 hours	NOEL	100 mg/l
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Water flea	Estimated	21 days	NOEL	100 mg/l
Naphthalene	91-20-3	Bacteria	Experimental	18 hours	EC10	>20 mg/l
Naphthalene	91-20-3	Bacteria	Experimental	24 hours	IC50	29 mg/l
Naphthalene	91-20-3	Diatom	Experimental	72 hours	EC50	0.4 mg/l
Naphthalene	91-20-3	Rainbow trout	Experimental	96 hours	LC50	0.11 mg/l
Naphthalene	91-20-3	Water flea	Experimental	48 hours	EC50	1.6 mg/l
Naphthalene	91-20-3	Fish	Experimental	40 days	NOEC	0.12 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Quartz	14808-60-7	Data not available-insufficient	N/A	N/A	N/A	N/A
Kerosene	8008-20-6	Experimental Biodegradation	28 days	BOD	58.6 %BOD/ThOD	OECD 301F - Manometric respirometry
Aluminium oxide	1344-28-1	Data not available-insufficient	N/A	N/A	N/A	N/A
Light Aromatic Hydrocarbons	64742-47-8	Experimental Biodegradation	28 days	BOD	22 %BOD/ThOD	OECD 301F - Manometric respirometry
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Experimental Biodegradation	28 days	CO2 evolution	23 %CO2 evolution/THCO2 evolution	similar to OECD 301B
Oleic Acid	112-80-1	Experimental Biodegradation	28 days	BOD	78 %BOD/ThOD	OECD 301C - MITI test (I)
Pine oil	8002-09-3	Estimated Biodegradation	28 days	BOD	80 %BOD/COD	OECD 310 CO2 Headspace
Pine oil	8002-09-3	Estimated Photolysis		Photolytic half-life (in air)	124 minutes (t 1/2)	
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Estimated Biodegradation	28 days	CO2 evolution	22 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Experimental Biodegradation	28 days	CO2 evolution	61 %CO2 evolution/THCO2 evolution	ISO 14593 Inorg C Headspace
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Analogous Compound Biodegradation	28 days	BOD	31 %BOD/ThOD	OECD 301F - Manometric respirometry
Naphthalene	91-20-3	Experimental Biodegradation	28 days	BOD	>74 %BOD/ThOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Kerosene	8008-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Light Aromatic Hydrocarbons	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Solvent dewaxed heavy paraffinic distillate (petroleum)	64742-65-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Oleic Acid	112-80-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Pine oil	8002-09-3	Estimated Bioconcentration		Log Kow	3.28	
Hydrotreated light paraffinic distillates (petroleum)	64742-55-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Modeled Bioconcentration		Bioaccumulation factor	5	Catalogic™
Polyethylene Glycol Sorbitan Monooleate	9005-65-6	Modeled Bioconcentration		Log Kow	5.61	Episuite™
Solvent Dewaxed Light Paraffinic Distillates (Petroleum)	64742-56-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Naphthalene	91-20-3	Experimental BCF - Fish	56 days	Bioaccumulation factor	36.5-168	OECD305-Bioconcentration

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

International Regulations

UN No.: Not restricted for transport.
UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: None assigned
Marine pollutant: None assigned

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 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.

This product may contain component(s) that are regulated by the following:
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.
Fire Safety (Petroleum and Flammable Materials) Regulations: This product is subject to the requirements in the Regulations
Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

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 Singapore SDSs are available at www.3m.com.sg