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™ Finesse-it™ Finishing Material [140], 13084, 81235, 83058

Product Identification Numbers

60-4402-4238-0	60-4402-4239-8	60-4402-4240-6	60-4402-4241-4	60-4402-4373-5
60-4402-4374-3	60-4402-4375-0	60-4402-4376-8		

1.2. Recommended use and restrictions on use

Recommended use
Abrasive Product, Polish. For industrial/occupational use only. Not for consumer sale or use.

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
Not classified as hazardous according to Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

2.2. Label elements
Signal word
Not applicable

Symbols

Not applicable

Pictograms
Not applicable

2.3. Other hazards
Aspiration hazard classification does not apply due to the kinematic 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	50 - 70
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	10 - 15
Aluminum Oxide (non-fibrous)	1344-28-1	5 - 10
Distillates (Petroleum), Acid Treated, Light	64742-14-9	5 - 10
Glycerin	56-81-5	5 - 10
Mineral Oil	8042-47-5	1 - 5
Morpholine	110-91-8	0.1 - 1
Light aromatic solvent naphtha (petroleum)	64742-95-6	0.3 - 0.7
1,2,4-Trimethylbenzene	95-63-6	0.05 - 0.5

Any remaining components do not contribute to the hazards of this material.

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:
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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
No critical symptoms or effects. 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
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

6.2. Environmental precautions
Avoid release to the environment.

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
Do not handle until all safety precautions have been read and understood. 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. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep from freezing. 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
Morpholine	110-91-8	ACGIH	TWA:20 ppm	A4: Not class. as human carcin,Danger of cutaneous absorption
Morpholine	110-91-8	Malaysia OELs	TWA(8 hours):71 mg/m3(20 ppm)	SKIN
Aluminum Oxide (non-fibrous)	1344-28-1	Malaysia OELs	TWA (proposed)(8 hours):10 mg/m3	
Glycerin	56-81-5	Malaysia OELs	TWA(as mist)(8 hours):10 mg/m3	
Particulates not Otherwise Classified (PNOC), Inhalable particulate	56-81-5	Malaysia OELs	TWA (proposed)(respirable particles)(8 hours):3 mg/m3;TWA (proposed)(Inhalable particulate)(8 hours):10 mg/m3	
Kerosene/Jet fuels (non-aerosol), as total hydrocarbon vapor	64742-14-9	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Kerosene/Jet fuels (non-aerosol), as total hydrocarbon vapor	64742-95-6	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
Mineral oil, excluding metal working fluids, pure, highly and severely refined, inhalable fraction	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Oil mist, mineral	8042-47-5	Malaysia OELs	TWA(as mist)(8 hours):5 mg/m3	
1,2,4-Trimethylbenzene	95-63-6	ACGIH	TWA:10 ppm	A4: Not class. as human carcin

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
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

When only incidental contact is anticipated, alternative glove material(s) may be used. If contact with the glove does occur, remove immediately and replace with a set of new gloves. For incidental contact, gloves made of the following material(s) may be used: Nitrile Rubber

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 Solvent
Odor threshold	*No Data Available*
pH	8.3 - 9
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	100 ºC
Flash Point	>=93.3 ºC [*Test Method:*Tagliabue Closed Cup] [*Details:*Conditions: Flame applied at 2 degree intervals]
Evaporation rate	4.4 [*Ref Std:*ETHER=1]
Flammability	Not Applicable
Flammable Limits(LEL)	0.8 %
Flammable Limits(UEL)	6 %
Vapor Pressure	*No Data Available*
Relative Vapor Density	1 [*Ref Std:*AIR=1]
Density	1 - 1 kg/l
Relative Density	0.98 - 1.01 [*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*
Kinematic Viscosity	13,384 mm2/sec
Volatile Organic Compounds	20.8 % weight [*Details:*Calculated]
Percent volatile	84.9 % weight [*Details:*Calculated including water]
VOC Less H2O & Exempt Solvents	566.3 g/l [*Details:*Calculated]
Molecular weight	*No Data Available*

Particle Characteristics	*Not Applicable*

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 polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong oxidizing 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 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:
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 diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

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

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Hydrotreated Heavy Naptha (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Hydrotreated Heavy Naptha (Petroleum)	Dermal	similar compounds	LD50 > 5,000 mg/kg
Distillates (Petroleum), Acid Treated, Light	Ingestion	Rat	LD50 > 15,000 mg/kg
Distillates (Petroleum), Acid Treated, Light	Dermal	similar compounds	LD50 > 5,000 mg/kg
Aluminum Oxide (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide (non-fibrous)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminum Oxide (non-fibrous)	Ingestion	Rat	LD50 > 5,000 mg/kg
Glycerin	Dermal	Rabbit	LD50 estimated to be > 5,000 mg/kg
Glycerin	Ingestion	Rat	LD50 > 5,000 mg/kg
Mineral Oil	Dermal	Rabbit	LD50 > 2,000 mg/kg
Mineral Oil	Ingestion	Rat	LD50 > 5,000 mg/kg
Light aromatic solvent naphtha (petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
Light aromatic solvent naphtha (petroleum)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
Light aromatic solvent naphtha (petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
Morpholine	Dermal	Rabbit	LD50 500 mg/kg
Morpholine	Inhalation-Vapor	Rat	LC50 estimated to be 10 - 20 mg/l
Morpholine	Ingestion	Rat	LD50 1,680 mg/kg
1,2,4-Trimethylbenzene	Dermal	Rabbit	LD50 > 3,160 mg/kg
1,2,4-Trimethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 18 mg/l
1,2,4-Trimethylbenzene	Ingestion	Rat	LD50 3,400 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydrotreated Heavy Naptha (Petroleum)	similar compounds	Mild irritant
Distillates (Petroleum), Acid Treated, Light	similar compounds	Mild irritant
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation
Glycerin	Rabbit	No significant irritation
Mineral Oil	Rabbit	No significant irritation
Light aromatic solvent naphtha (petroleum)	Rabbit	Irritant
Morpholine	Rabbit	Corrosive
1,2,4-Trimethylbenzene	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Hydrotreated Heavy Naptha (Petroleum)	similar compounds	No significant irritation
Distillates (Petroleum), Acid Treated, Light	similar compounds	No significant irritation
Aluminum Oxide (non-fibrous)	Rabbit	No significant irritation

Glycerin	Rabbit	No significant irritation
Mineral Oil	Rabbit	Mild irritant
Light aromatic solvent naphtha (petroleum)	Rabbit	Mild irritant
Morpholine	Rabbit	Corrosive
1,2,4-Trimethylbenzene	Rabbit	Mild irritant

Sensitization:

Skin Sensitization

Name	Species	Value
Hydrotreated Heavy Naptha (Petroleum)	similar compounds	Not classified
Distillates (Petroleum), Acid Treated, Light	similar compounds	Not classified
Glycerin	Guinea pig	Not classified
Mineral Oil	Guinea pig	Not classified
Light aromatic solvent naphtha (petroleum)	Guinea pig	Not classified
Morpholine	Guinea pig	Not classified
1,2,4-Trimethylbenzene	Guinea pig	Not classified

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 Heavy Naptha (Petroleum)	In Vitro	Not mutagenic
Distillates (Petroleum), Acid Treated, Light	In Vitro	Not mutagenic
Aluminum Oxide (non-fibrous)	In Vitro	Not mutagenic
Mineral Oil	In Vitro	Not mutagenic
Morpholine	In Vitro	Some positive data exist, but the data are not sufficient for classification
Morpholine	In vivo	Some positive data exist, but the data are not sufficient for classification
1,2,4-Trimethylbenzene	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide (non-fibrous)	Inhalation	Rat	Not carcinogenic
Glycerin	Ingestion	Mouse	Some positive data exist, but the data are not sufficient for classification
Mineral Oil	Dermal	Mouse	Not carcinogenic
Mineral Oil	Inhalation	Multiple animal species	Not carcinogenic
Light aromatic solvent naphtha (petroleum)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
Morpholine	Ingestion	Multiple animal species	Not carcinogenic
Morpholine	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Glycerin	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerin	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	2 generation
Glycerin	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	2 generation
Mineral Oil	Ingestion	Not classified for female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
Mineral Oil	Ingestion	Not classified for male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
Mineral Oil	Ingestion	Not classified for development	Rat	NOAEL 4,350 mg/kg/day	during gestation
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for female reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for male reproduction	Rat	NOAEL 1,500 ppm	2 generation
Light aromatic solvent naphtha (petroleum)	Inhalation	Not classified for development	Rat	NOAEL 500 ppm	2 generation
Morpholine	Ingestion	Not classified for development		NA	
Morpholine	Ingestion	Toxic to male reproduction	similar compounds	NOAEL 60 mg/kg/day	2 generation
1,2,4-Trimethylbenzene	Inhalation	Not classified for female reproduction	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	Not classified for male reproduction	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 1.5 mg/l	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	similar compounds	NOAEL Not available	
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Distillates (Petroleum), Acid Treated, Light	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
Light aromatic solvent naphtha (petroleum)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Morpholine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

1,2,4-Trimethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
1,2,4-Trimethylbenzene	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
1,2,4-Trimethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	endocrine system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	muscles	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	nervous system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	respiratory system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Heavy Naptha (Petroleum)	Inhalation	vascular system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Distillates (Petroleum), Acid Treated, Light	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Distillates (Petroleum), Acid Treated, Light	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Distillates (Petroleum), Acid Treated, Light	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Distillates (Petroleum), Acid Treated, Light	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Distillates (Petroleum), Acid Treated, Light	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Distillates (Petroleum), Acid Treated, Light	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Distillates (Petroleum), Acid Treated, Light	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Aluminum Oxide (non-fibrous)	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminum Oxide (non-fibrous)	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Glycerin	Inhalation	respiratory system	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Inhalation	heart	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Inhalation	liver	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 3.91 mg/l	14 days
Glycerin	Ingestion	endocrine system	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years

Glycerin	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Glycerin	Ingestion	liver	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Glycerin	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 years
Mineral Oil	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,381 mg/kg/day	90 days
Mineral Oil	Ingestion	liver	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
Mineral Oil	Ingestion	immune system	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
Morpholine	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	LOAEL 900 mg/kg/day	13 days
Morpholine	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	LOAEL 900 mg/kg/day	13 days
Morpholine	Dermal	hematopoietic system	Not classified	Guinea pig	NOAEL 900 mg/kg/day	13 days
Morpholine	Inhalation	eyes	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Morpholine	Inhalation	pulmonary fibrosis	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.09 mg/l	13 weeks
Morpholine	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 64 mg/l	5 days
Morpholine	Inhalation	liver	Not classified	Rat	LOAEL 64 mg/l	5 days
Morpholine	Inhalation	heart	Not classified	Rat	NOAEL 0.9 mg/l	13 weeks
Morpholine	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.9 mg/l	13 weeks
Morpholine	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 0.53 mg/l	104 weeks
Morpholine	Inhalation	nervous system	Not classified	Rat	NOAEL 0.53 mg/l	104 weeks
Morpholine	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 160 mg/kg/day	30 days
Morpholine	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 160 mg/kg/day	30 days
Morpholine	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 160 mg/kg/day	30 days
Morpholine	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 800 mg/kg/day	30 days
Morpholine	Ingestion	endocrine system	Not classified	Rat	NOAEL 323 mg/kg/day	4 weeks
1,2,4-Trimethylbenzene	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.5 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.1 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
1,2,4-Trimethylbenzene	Inhalation	liver	Not classified	Rat	NOAEL 1.2 mg/l	3 months

1,2,4-Trimethylbenzene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	heart	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Inhalation	immune system	Not classified	Rat	NOAEL 1.2 mg/l	3 months
1,2,4-Trimethylbenzene	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 600 mg/kg/day	14 days
1,2,4-Trimethylbenzene	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
1,2,4-Trimethylbenzene	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
1,2,4-Trimethylbenzene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

Name	Value
Hydrotreated Heavy Naptha (Petroleum)	Aspiration hazard
Distillates (Petroleum), Acid Treated, Light	Aspiration hazard
Mineral Oil	Aspiration hazard
Light aromatic solvent naphtha (petroleum)	Aspiration hazard
1,2,4-Trimethylbenzene	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:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Rainbow Trout	Experimental	96 hours	LL50	>1,000 mg/l
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Water flea	Experimental	48 hours	EL50	>1,000 mg/l

Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Green algae	Experimental	72 hours	NOEL	100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	N/A	Experimental	96 hours	LC50	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Water flea	Experimental	48 hours	LC50	>100 mg/l
Aluminum Oxide (non-fibrous)	1344-28-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Green algae	Estimated	72 hours	EL50	>1,000 mg/l
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Rainbow Trout	Estimated	96 hours	LL50	>1,000 mg/l
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Water flea	Estimated	48 hours	EL50	>1,000 mg/l
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Green algae	Estimated	72 hours	NOEL	>1,000 mg/l
Glycerin	56-81-5	Rainbow Trout	Experimental	96 hours	LC50	54,000 mg/l
Glycerin	56-81-5	Water flea	Experimental	48 hours	LC50	1,955 mg/l
Glycerin	56-81-5	Bacteria	Experimental	16 hours	NOEC	10,000 mg/l
Mineral Oil	8042-47-5	Water flea	Analogous Compound	48 hours	EL50	>100 mg/l
Mineral Oil	8042-47-5	Bluegill	Experimental	96 hours	LL50	>100 mg/l
Mineral Oil	8042-47-5	Green algae	Analogous Compound	72 hours	NOEL	100 mg/l
Mineral Oil	8042-47-5	Water flea	Analogous Compound	21 days	NOEL	>100 mg/l
Morpholine	110-91-8	Activated sludge	Experimental	30 minutes	EC20	>1,000 mg/l
Morpholine	110-91-8	Fish	Experimental	96 hours	LC50	100 mg/l
Morpholine	110-91-8	Green algae	Experimental	96 hours	ErC50	28 mg/l
Morpholine	110-91-8	Rainbow Trout	Experimental	96 hours	LC50	180 mg/l
Morpholine	110-91-8	Water flea	Experimental	48 hours	EC50	45 mg/l
Morpholine	110-91-8	Green algae	Experimental	96 hours	NOEC	10 mg/l
Morpholine	110-91-8	Water flea	Experimental	21 days	NOEC	5 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Fathead Minnow	Estimated	96 hours	LL50	8.2 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Green algae	Estimated	72 hours	EL50	7.9 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Water flea	Estimated	48 hours	EL50	3.2 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Green algae	Estimated	72 hours	NOEL	0.22 mg/l
Light aromatic solvent naphtha (petroleum)	64742-95-6	Water flea	Experimental	21 days	NOEL	2.6 mg/l
1,2,4-Trimethylbenzene	95-63-6	Fathead Minnow	Experimental	96 hours	LC50	7.72 mg/l
1,2,4-Trimethylbenzene	95-63-6	Mysid Shrimp	Experimental	96 hours	LC50	2 mg/l
1,2,4-Trimethylbenzene	95-63-6	Water flea	Experimental	48 hours	LC50	3.6 mg/l
1,2,4-Trimethylbenzene	95-63-6	Water flea	Analogous Compound	21 days	NOEC	0.4 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	80% %BOD/ThOD	OECD 301F - Manometric Respiro
Aluminum Oxide (non-fibrous)	1344-28-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Estimated Biodegradation	28 days	Biological Oxygen Demand	69 %BOD/ThOD	OECD 301F - Manometric Respiro
Glycerin	56-81-5	Experimental Biodegradation	14 days	Biological Oxygen Demand	63 %BOD/ThOD	OECD 301C - MITI (I)
Mineral Oil	8042-47-5	Experimental Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
Morpholine	110-91-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	93 %removal of DOC	OECD 301E - Modif. OECD Screen
Morpholine	110-91-8	Experimental Biodegradation	31 days	Dissolv. Organic Carbon Deplet	98 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Light aromatic solvent naphtha (petroleum)	64742-95-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	78 %BOD/COD	OECD 301F - Manometric Respiro
1,2,4-Trimethylbenzene	95-63-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	>60 %BOD/ThOD	OECD 301F - Manometric Respiro
1,2,4-Trimethylbenzene	95-63-6	Experimental Photolysis		Photolytic half-life (in air)	11.8 hours (t 1/2)	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Hydrotreated Heavy Naptha (Petroleum)	64742-48-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminum Oxide (non-fibrous)	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Distillates (Petroleum), Acid Treated, Light	64742-14-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Glycerin	56-81-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-1.75	similar to OECD 107
Mineral Oil	8042-47-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Morpholine	110-91-8	Experimental BCF - Fish	42 days	Bioaccumulation Factor	<2.8	OECD305-Bioconcentration
Morpholine	110-91-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-2.55	OECD 107 log Kow shke flsk mtd
Light aromatic solvent naphtha (petroleum)	64742-95-6	Estimated BCF - Fish	42 days	Bioaccumulation Factor	598	OECD305-Bioconcentration
1,2,4-Trimethylbenzene	95-63-6	Experimental BCF - Fish	56 days	Bioaccumulation Factor	≤275	OECD305-Bioconcentration
1,2,4-Trimethylbenzene	95-63-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.63	

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 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.

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