



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(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

Product Identification Numbers

62-4977-4830-1	70-0050-1481-9	70-0050-1808-3	70-0050-8170-1	70-0050-8171-9
70-0050-8855-7	70-0050-8856-5	70-0050-9184-1	70-0051-0557-5	70-0051-1098-9
70-0051-2143-2	70-0051-2688-6	70-0052-9181-3	70-0714-8197-5	TM-0000-3295-2

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

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

Flammable Aerosol: Category 1.

Gas Under Pressure: Liquefied gas.

Serious Eye Damage/Irritation: Category 2.

Specific Target Organ Toxicity (single exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

3M(TM) Super 77(TM) Multipurpose Adhesive (Aerosol)

Flame | Gas cylinder | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

H222	Extremely flammable aerosol.
H280	Contains gas under pressure; may explode if heated.
H319	Causes serious eye irritation.
H370	Causes damage to organs: cardiovascular system

Precautionary statements

General:

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

Prevention:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.

Storage:

P410 + P403	Protect from sunlight. Store in a well-ventilated place.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50C/122F.
P405	Store locked up.

Disposal:

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

May cause drowsiness or dizziness.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
ACETONE	67-64-1	20 - 30
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	64742-49-0	20 - 30
NON-VOLATILE COMPONENTS	Trade Secret	20 - 30

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PROPANE	74-98-6	15 - 25
GLYCEROL ESTER	Trade Secret	5 - 10
CYCLOHEXANE	110-82-7	4 - 8
POLYTERPENE RESIN	Trade Secret	< 5
HEXANE	110-54-3	< 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. Get medical attention.

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Aldehydes
Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion
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.

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

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could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. 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 metal 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.

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 spray on an open flame or other ignition source. Do not pierce or burn, even after use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Protect from sunlight. Store in a well-ventilated place. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
HEXANE	110-54-3	Malaysia OELs	TWA(8 hours):176 mg/m ³ (50 ppm)	SKIN
HEXANE	110-54-3	ACGIH	TWA:50 ppm	SKIN
CYCLOHEXANE	110-82-7	ACGIH	TWA:100 ppm	
CYCLOHEXANE	110-82-7	Malaysia OELs	TWA(8 hours):1030 mg/m ³ (300 ppm)	
ACETONE	67-64-1	Malaysia OELs	TWA(8 hours):1187 mg/m ³ (500 ppm)	
ACETONE	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
PROPANE	74-98-6	ACGIH	Limit value not established:	
PROPANE	74-98-6	Malaysia OELs	TWA(8 hours):2500 ppm	
GLYCEROL ESTER	Trade	ACGIH	Limit value not established:	Dermal/Respiratory

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	Secret			Sensitizer, Cntrl all exposr-low as possib
GLYCEROL ESTER	Trade Secret	Malaysia OELs	Limit value not established:	

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

Do not remain in area where available oxygen may be reduced. 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:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Respiratory protection

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

Half facepiece or full facepiece supplied-air respirator

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Specific Physical Form:	Aerosol
Appearance/Odor	Clear, sweet fruity odor
Odor threshold	No Data Available
pH	Not Applicable
Melting point/Freezing point	Not Applicable
Boiling point/Initial boiling point/Boiling range	Not Applicable
Flash Point	-41.1 °C [Test Method: Tagliabue Closed Cup] [Details: CONDITIONS: Propellant]
Evaporation rate	1.9 [Ref Std: ETHER=1]

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Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Density	2.97 [Ref Std: AIR=1]
Density	0.726 g/ml
Relative Density	0.726 [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	Not Applicable
Volatile Organic Compounds	Approximately 51 % [Test Method: calculated SCAQMD rule 443.1]
Percent volatile	<=75 % weight
VOC Less H2O & Exempt Solvents	468 g/l

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

Heat
Sparks and/or flames

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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

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

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal.

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.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

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

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Single exposure, above recommended guidelines, may cause:

Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
PROPANE	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
ACETONE	Dermal	Rabbit	LD50 > 15,688 mg/kg
ACETONE	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
ACETONE	Ingestion	Rat	LD50 5,800 mg/kg
CYCLOHEXANE	Dermal	Rat	LD50 > 2,000 mg/kg
CYCLOHEXANE	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
CYCLOHEXANE	Ingestion	Rat	LD50 6,200 mg/kg

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HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 3,160 mg/kg
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 14.7 mg/l
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg
NON-VOLATILE COMPONENTS	Dermal		LD50 estimated to be > 5,000 mg/kg
NON-VOLATILE COMPONENTS	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
GLYCEROL ESTER	Dermal	Rat	LD50 > 2,000 mg/kg
GLYCEROL ESTER	Ingestion	Rat	LD50 > 2,000 mg/kg
POLYTERPENE RESIN	Dermal		LD50 estimated to be > 5,000 mg/kg
POLYTERPENE RESIN	Ingestion	Rat	LD50 > 34,000 mg/kg
HEXANE	Dermal	Rabbit	LD50 > 2,000 mg/kg
HEXANE	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
HEXANE	Ingestion	Rat	LD50 > 28,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
PROPANE	Rabbit	Minimal irritation
ACETONE	Mouse	Minimal irritation
CYCLOHEXANE	Rabbit	Mild irritant
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Rabbit	Irritant
NON-VOLATILE COMPONENTS	Professional judgement	Minimal irritation
GLYCEROL ESTER	Rabbit	No significant irritation
HEXANE	Human and animal	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
PROPANE	Rabbit	Mild irritant
ACETONE	Rabbit	Severe irritant
CYCLOHEXANE	Rabbit	Mild irritant
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant
GLYCEROL ESTER	Rabbit	Mild irritant
HEXANE	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing
GLYCEROL ESTER	Human and animal	Not sensitizing
HEXANE	Human	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
PROPANE	In Vitro	Not mutagenic
ACETONE	In vivo	Not mutagenic

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ACETONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
CYCLOHEXANE	In Vitro	Not mutagenic
CYCLOHEXANE	In vivo	Some positive data exist, but the data are not sufficient for classification
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	In Vitro	Not mutagenic
HEXANE	In Vitro	Not mutagenic
HEXANE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
ACETONE	Not Specified	Multiple animal species	Not carcinogenic
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
HEXANE	Dermal	Mouse	Not carcinogenic
HEXANE	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity
Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
ACETONE	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	13 weeks
ACETONE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	during organogenesis
CYCLOHEXANE	Inhalation	Not toxic to female reproduction	Rat	NOAEL 24 mg/l	2 generation
CYCLOHEXANE	Inhalation	Not toxic to male reproduction	Rat	NOAEL 24 mg/l	2 generation
CYCLOHEXANE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 6.9 mg/l	2 generation
HEXANE	Ingestion	Not toxic to development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
HEXANE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during gestation
HEXANE	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
HEXANE	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days

Target Organ(s)
Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PROPANE	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
PROPANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
PROPANE	Inhalation	respiratory irritation	All data are negative	Human	NOAEL Not available	
ACETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ACETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	Human	NOAEL Not available	

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			classification			
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 hours
ACETONE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	
ACETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
CYCLOHEXANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
CYCLOHEXANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
CYCLOHEXANE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
HEXANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
HEXANE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
HEXANE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24.6 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ACETONE	Dermal	eyes	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL Not available	3 weeks
ACETONE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 3 mg/l	6 weeks
ACETONE	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL 1.19 mg/l	6 days
ACETONE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Guinea pig	NOAEL 119 mg/l	not available
ACETONE	Inhalation	heart liver	All data are negative	Rat	NOAEL 45 mg/l	8 weeks
ACETONE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	13 weeks
ACETONE	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	13 weeks
ACETONE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,896 mg/kg/day	14 days

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ACETONE	Ingestion	eyes	All data are negative	Rat	NOAEL 3,400 mg/kg/day	13 weeks
ACETONE	Ingestion	respiratory system	All data are negative	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	muscles	All data are negative	Rat	NOAEL 2,500 mg/kg	13 weeks
ACETONE	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
CYCLOHEXANE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 24 mg/l	90 days
CYCLOHEXANE	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.7 mg/l	90 days
CYCLOHEXANE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 2.7 mg/l	10 weeks
CYCLOHEXANE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 24 mg/l	14 weeks
CYCLOHEXANE	Inhalation	peripheral nervous system	All data are negative	Rat	NOAEL 8.6 mg/l	30 weeks
HEXANE	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
HEXANE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
HEXANE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 months
HEXANE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1.76 mg/l	6 months
HEXANE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 35.2 mg/l	13 weeks
HEXANE	Inhalation	auditory system immune system eyes	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
HEXANE	Inhalation	heart skin endocrine system	All data are negative	Rat	NOAEL 1.76 mg/l	6 months
HEXANE	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
HEXANE	Ingestion	endocrine system hematopoietic system liver immune system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	13 weeks

Aspiration Hazard

Name	Value
CYCLOHEXANE	Aspiration hazard
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	Aspiration hazard
HEXANE	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

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The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
ACETONE	67-64-1	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	5,540 mg/l
ACETONE	67-64-1	Green Algae	Experimental	96 hours	Effect Concentration 50%	2,574 mg/l
ACETONE	67-64-1	Water flea	Experimental	48 hours	Effect Concentration 50%	13,500 mg/l
POLYTERPENE RESIN	Trade Secret		Data not available or insufficient for classification			
NON-VOLATILE COMPONENTS	Trade Secret		Data not available or insufficient for classification			
CYCLOHEXANE	110-82-7	Water flea	Experimental	48 hours	Effect Concentration 50%	0.9 mg/l
CYCLOHEXANE	110-82-7	Green Algae	Experimental	72 hours	Effect Concentration 50%	3.4 mg/l
CYCLOHEXANE	110-82-7	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	4.53 mg/l
GLYCEROL ESTER	Trade Secret		Data not available or insufficient for classification			
HEXANE	110-54-3	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	2.5 mg/l
HEXANE	110-54-3	Water flea	Experimental	48 hours	Effect Concentration 50%	>3.9 mg/l
HYDROTREATED LIGHT	64742-49-0		Data not available or			

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NAPHTHA (PETROLEUM)			insufficient for classification			
PROPANE	74-98-6		Data not available or insufficient for classification			
ACETONE	67-64-1	Algae other	Experimental	96 hours	Effect Concentration 50%	11,493 mg/l
GLYCEROL ESTER	Trade Secret	Fathead Minnow	Estimated		Lethal Level 50%	>100 mg/l
GLYCEROL ESTER	Trade Secret	Green algae	Estimated		Effect Level 50%	>100 mg/l
GLYCEROL ESTER	Trade Secret	Water flea	Estimated		Effect Level 50%	>100 mg/l
ACETONE	67-64-1	Water flea	Experimental	21 days	No obs Effect Conc	1,000 mg/l
GLYCEROL ESTER	Trade Secret	Green Algae	Estimated		No obs Effect Level	>100 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
HEXANE	110-54-3	Experimental Photolysis		Photolytic half-life (in air)	5.4 days (t 1/2)	Other methods
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	64742-49-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
POLYTERPENE RESIN	Trade Secret	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 % weight	OECD 301C - MITI (I)
GLYCEROL ESTER	Trade Secret	Laboratory Biodegradation	28 days	Carbon dioxide evolution	47.3 % weight	OECD 301B - Mod. Sturm or CO2
HEXANE	110-54-3	Experimental Bioconcentration	28 days	Biological Oxygen Demand	100 % weight	OECD 301C - MITI (I)
CYCLOHEXANE	110-82-7	Experimental Biodegradation	28 days	Biological Oxygen Demand	77 % weight	OECD 301F - Manometric Respiro
ACETONE	67-64-1	Estimated Photolysis		Photolytic half-life (in air)	80 days (t 1/2)	Other methods
GLYCEROL ESTER	Trade Secret	Experimental Biodegradation	28 days	Carbon dioxide evolution	47.3 % weight	OECD 301B - Mod. Sturm or CO2
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	64742-49-0	Experimental Biodegradation	28 days	Biological Oxygen Demand	89 % weight	OECD 301F - Manometric Respiro

12.3. Bioaccumulative potential

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Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
HYDROTREATED LIGHT NAPHTHA (PETROLEUM)	64742-49-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
HEXANE	110-54-3	Modeled Bioconcentration		Bioaccumulation Factor	138	Other methods
PROPANE	74-98-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
CYCLOHEXANE	110-82-7	Experimental BCF-Carp	56 days	Bioaccumulation Factor	<129	Other methods
POLYTERPENE RESIN	Trade Secret	Estimated BCF-Carp	70 days	Bioaccumulation Factor	11100	Other methods
GLYCEROL ESTER	Trade Secret	Laboratory Bioaccumulation		Log of Octanol/H2O part. coeff	5.8	Other methods
ACETONE	67-64-1	Experimental BCF - Other		Bioaccumulation Factor	0.65	Other methods
GLYCEROL ESTER	Trade Secret	Estimated Bioconcentration		Bioaccumulation Factor	7.4	Est: Bioconcentration factor

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

Material	CAS No.	Ozone Depletion Potential	Global Warming Potential
acetone	67-64-1	0	

SECTION 13: Disposal considerations**13.1. Disposal methods**

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

SECTION 14: Transport Information**Marine Transport (IMDG)**

UN Number: UN1950, UN1950, UN1950

Proper Shipping Name: AEROSOLS, CORROSIVE, AEROSOLS, FLAMMABLE, AERSOLS, POISON

Technical Name: None assigned.

Hazard Class/Division: 2.1

Subsidiary Risk: None assigned.

Packing Group: None assigned.

Limited Quantity: Yes

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Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number: UN1950, UN1950, UN1950

Proper Shipping Name: AEROSOLS, CORROSIVE, AEROSOLS, FLAMMABLE, AERSOLS, POISON

Technical Name: None assigned.

Hazard Class/Division: 2.1

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 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. The components of this product are in compliance with the chemical notification requirements of TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

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

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