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 SCOTCH(TM) 1602 SEALER (RED)

Product Identification Numbers

DE-9999-5077-2	DE-9999-5146-5	DE-9999-5159-8	DE-9999-5306-5	DE-9999-5319-8
DE-9999-5332-1	DE-9999-5667-0	DE-9999-5693-6	XZ-0046-0781-2	

1.2. Recommended use and restrictions on use

Recommended use
Electrical Insulating Spray, Industrial 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
Flammable Aerosol: Category 1.
Gas Under Pressure: Liquefied gas.
Serious Eye Damage/Irritation: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 2.

2.2. Label elements
Signal word
Danger

Symbols

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 |
H371	May cause damage to organs: respiratory system | sensory organs |
H373	May cause damage to organs through prolonged or repeated exposure: nervous 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.
P280A	Wear eye/face protection.

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

Disposal:

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

2.3. Other hazards

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. Aspiration classification does not apply as this product is sold in sealed, self-pressurized containers with nozzles designed to prevent formation of a stream during usage.

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	15 - 30
BUTANE	106-97-8	15 - 25
PROPANE	74-98-6	10 - 20
Acrylic Binder	Unknown	5 - 20
N-BUTYL ACETATE	123-86-4	5 - 15
ETHYL ACETATE	141-78-6	1 - 10
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	1 - 10
XYLENE	1330-20-7	1 - 10
METHYL ETHYL KETONE	78-93-3	1 - 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 for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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	Condition
Hydrocarbons	During Combustion
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.

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. 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of vapors created during cure cycle. For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. 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 contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. 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
BUTANE	106-97-8	ACGIH	STEL:1000 ppm	
BUTANE	106-97-8	Malaysia OELs	TWA(8 hours):1900 mg/m3(800 ppm)	

N-BUTYL ACETATE	123-86-4	ACGIH	TWA:50 ppm;STEL:150 ppm	
N-BUTYL ACETATE	123-86-4	Malaysia OELs	TWA(8 hours):713 mg/m3(150 ppm)	
XYLENE	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	A4: Not class. as human carcin
XYLENE	1330-20-7	Malaysia OELs	TWA(8 hours):434 mg/m3(100 ppm)	
ETHYL ACETATE	141-78-6	ACGIH	TWA:400 ppm	
ETHYL ACETATE	141-78-6	Malaysia OELs	TWA(8 hours):1440 mg/m3(400 ppm)	
ACETONE	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
ACETONE	67-64-1	Malaysia OELs	TWA(8 hours):1187 mg/m3(500 ppm)	
PROPANE	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
PROPANE	74-98-6	Malaysia OELs	TWA(8 hours):2500 ppm	
METHYL ETHYL KETONE	78-93-3	ACGIH	TWA:200 ppm;STEL:300 ppm	
METHYL ETHYL KETONE	78-93-3	Malaysia OELs	TWA(8 hours):590 mg/m3(200 ppm)	

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
Provide ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Fluoroelastomer
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
Half facepiece or full facepiece supplied-air respirator
Organic vapor respirators may have short service life.

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
Color	Red
Odor	Solvent
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*No Data Available*
Flash Point	<=21 ºC
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	0.8 %
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	320,000 Pa
Vapor Density and/or Relative Vapor Density	*No Data Available*
Relative Density	*No Data Available*
Water solubility	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	300 ºC
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*Not Applicable*
Volatile Organic Compounds	*No Data Available*
Percent volatile	60 - 95 %
VOC Less H2O & Exempt Solvents	*No Data Available*

Nanoparticles
This material does not contain nanoparticles.

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:
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 target organ effects after inhalation. 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 target organ effects after ingestion. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

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

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

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

Prolonged or repeated exposure may cause target organ effects:
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

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
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
BUTANE	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
PROPANE	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
N-BUTYL ACETATE	Dermal	Rabbit	LD50 > 5,000 mg/kg
N-BUTYL ACETATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.4 mg/l
N-BUTYL ACETATE	Inhalation-Vapor (4 hours)	Rat	LC50 > 20 mg/l
N-BUTYL ACETATE	Ingestion	Rat	LD50 > 8,800 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
XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
ETHYL ACETATE	Dermal	Rabbit	LD50 > 18,000 mg/kg
ETHYL ACETATE	Inhalation-Vapor (4 hours)	Rat	LC50 70.5 mg/l
ETHYL ACETATE	Ingestion	Rat	LD50 5,620 mg/kg
METHYL ETHYL KETONE	Dermal	Rabbit	LD50 > 8,050 mg/kg
METHYL ETHYL KETONE	Inhalation-Vapor (4 hours)	Rat	LC50 34.5 mg/l
METHYL ETHYL KETONE	Ingestion	Rat	LD50 2,737 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value

ACETONE	Mouse	Minimal irritation
BUTANE	Professional judgement	No significant irritation
PROPANE	Rabbit	Minimal irritation
N-BUTYL ACETATE	Rabbit	Minimal irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant
XYLENE	Rabbit	Mild irritant
ETHYL ACETATE	Rabbit	Minimal irritation
METHYL ETHYL KETONE	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
ACETONE	Rabbit	Severe irritant
BUTANE	Rabbit	No significant irritation
PROPANE	Rabbit	Mild irritant
N-BUTYL ACETATE	Rabbit	Moderate irritant
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant
XYLENE	Rabbit	Mild irritant
ETHYL ACETATE	Rabbit	Mild irritant
METHYL ETHYL KETONE	Rabbit	Severe irritant

Sensitization:

Skin Sensitization

Name	Species	Value
N-BUTYL ACETATE	Multiple animal species	Not classified
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not classified
ETHYL ACETATE	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
ACETONE	In vivo	Not mutagenic
ACETONE	In Vitro	Some positive data exist, but the data are not sufficient for classification
BUTANE	In Vitro	Not mutagenic
PROPANE	In Vitro	Not mutagenic
N-BUTYL ACETATE	In Vitro	Not mutagenic
XYLENE	In Vitro	Not mutagenic
XYLENE	In vivo	Not mutagenic
ETHYL ACETATE	In Vitro	Not mutagenic
ETHYL ACETATE	In vivo	Not mutagenic
METHYL ETHYL KETONE	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
ACETONE	Not Specified	Multiple animal species	Not carcinogenic
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Mouse	Some positive data exist, but the data are not

			sufficient for classification
XYLENE	Dermal	Rat	Not carcinogenic
XYLENE	Ingestion	Multiple animal species	Not carcinogenic
XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
METHYL ETHYL KETONE	Inhalation	Human	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
ACETONE	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
ACETONE	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
N-BUTYL ACETATE	Inhalation	Not classified for female reproduction	Rat	NOAEL 7.1 mg/l	premating & during gestation
N-BUTYL ACETATE	Inhalation	Not classified for development	Rat	NOAEL 7.1 mg/l	premating & 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
XYLENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
XYLENE	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
XYLENE	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
METHYL ETHYL KETONE	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation

Lactation

Name	Route	Species	Value
XYLENE	Ingestion	Mouse	Not classified for effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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 classification	Human	NOAEL Not available	
ACETONE	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
ACETONE	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
ACETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
BUTANE	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	

BUTANE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
BUTANE	Inhalation	heart	Not classified	Dog	NOAEL 5,000 ppm	25 minutes
BUTANE	Inhalation	respiratory irritation	Not classified	Rabbit	NOAEL Not available	
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	Not classified	Human	NOAEL Not available	
N-BUTYL ACETATE	Inhalation	respiratory system	May cause damage to organs	Rat	LOAEL 2.6 mg/l	4 hours
N-BUTYL ACETATE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
N-BUTYL ACETATE	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	not available
N-BUTYL ACETATE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	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	
XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
XYLENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
XYLENE	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
ETHYL ACETATE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYL ACETATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
ETHYL ACETATE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
METHYL ETHYL KETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
METHYL ETHYL KETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
METHYL ETHYL KETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgeme	NOAEL Not available	

				nt		
METHYL ETHYL KETONE	Ingestion	liver	Not classified	Rat	NOAEL Not available	not applicable
METHYL ETHYL KETONE	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
ACETONE	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
ACETONE	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
ACETONE	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
ACETONE	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
ACETONE	Inhalation	heart | liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
ACETONE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
ACETONE	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
ACETONE	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
ACETONE	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
ACETONE	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
ACETONE	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
ACETONE	Ingestion	skin | bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
BUTANE	Inhalation	kidney and/or bladder | blood	Not classified	Rat	NOAEL 4,489 ppm	90 days
N-BUTYL ACETATE	Inhalation	olfactory system	Not classified	Rat	NOAEL 2.4 mg/l	14 weeks
N-BUTYL ACETATE	Inhalation	liver | kidney and/or bladder	Not classified	Rabbit	NOAEL 7.26 mg/l	13 days
XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
XYLENE	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
XYLENE	Inhalation	heart | endocrine system | gastrointestinal tract | hematopoietic system | muscles | kidney and/or bladder | respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
XYLENE	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
XYLENE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days

XYLENE	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
ETHYL ACETATE	Inhalation	endocrine system | liver | nervous system	Not classified	Rat	NOAEL 0.043 mg/l	90 days
ETHYL ACETATE	Inhalation	hematopoietic system	Not classified	Rabbit	LOAEL 16 mg/l	40 days
ETHYL ACETATE	Ingestion	hematopoietic system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 3,600 mg/kg/day	90 days
METHYL ETHYL KETONE	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
METHYL ETHYL KETONE	Inhalation	liver | kidney and/or bladder | heart | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
METHYL ETHYL KETONE	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days

Aspiration Hazard

Name	Value
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Aspiration hazard
XYLENE	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

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

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful 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	Algae other	Experimental	96 hours	Effect Concentration 50%	11,493 mg/l
ACETONE	67-64-1	Crustecea other	Experimental	24 hours	Lethal Concentration 50%	2,100 mg/l
ACETONE	67-64-1	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	5,540 mg/l
ACETONE	67-64-1	Water flea	Experimental	21 days	No obs Effect Conc	1,000 mg/l
BUTANE	106-97-8		Data not available or insufficient for classification			
PROPANE	74-98-6		Data not available or insufficient for classification			
N-BUTYL ACETATE	123-86-4	Crustacea	Experimental	48 hours	Lethal Concentration 50%	32 mg/l
N-BUTYL ACETATE	123-86-4	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	18 mg/l
N-BUTYL ACETATE	123-86-4	Green algae	Experimental	72 hours	Effect Concentration 50%	674.7 mg/l
N-BUTYL ACETATE	123-86-4	Water flea	Experimental	24 hours	Effect Concentration 50%	72.8 mg/l
ETHYL ACETATE	141-78-6	Crustacea	Experimental	48 hours	Effect Concentration 50%	165 mg/l
ETHYL ACETATE	141-78-6	Fish	Experimental	96 hours	Lethal Concentration 50%	212.5 mg/l
ETHYL ACETATE	141-78-6	Green Algae	Experimental	72 hours	No obs Effect Conc	>100 mg/l
ETHYL ACETATE	141-78-6	Water flea	Experimental	21 days	No obs Effect Conc	2.4 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Fathead Minnow	Estimated	96 hours	Lethal Level 50%	8.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Green Algae	Estimated	72 hours	Effect Level 50%	7.9 mg/l

LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Water flea	Estimated	48 hours	Effect Level 50%	3.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Green Algae	Estimated	72 hours	No obs Effect Level	0.22 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Water flea	Experimental	21 days	No obs Effect Level	2.6 mg/l
XYLENE	1330-20-7	Green Algae	Estimated	72 hours	Effect Concentration 50%	4.36 mg/l
XYLENE	1330-20-7	Rainbow Trout	Estimated	96 hours	Lethal Concentration 50%	2.6 mg/l
XYLENE	1330-20-7	Water flea	Estimated	24 hours	Inhibitory Concentration 50%	1 mg/l
XYLENE	1330-20-7	Green Algae	Estimated	72 hours	No obs Effect Conc	0.44 mg/l
XYLENE	1330-20-7	Water flea	Estimated	7 days	No obs Effect Conc	0.96 mg/l
XYLENE	1330-20-7	Rainbow Trout	Experimental	56 days	No obs Effect Conc	>1.3 mg/l
METHYL ETHYL KETONE	78-93-3	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	2,993 mg/l
METHYL ETHYL KETONE	78-93-3	Green algae	Experimental	96 hours	Effect Concentration 50%	2,029 mg/l
METHYL ETHYL KETONE	78-93-3	Water flea	Experimental	48 hours	Effect Concentration 50%	308 mg/l
METHYL ETHYL KETONE	78-93-3	Green Algae	Experimental	96 hours	Effect Concentration 10%	1,289 mg/l
METHYL ETHYL KETONE	78-93-3	Water flea	Experimental	21 days	No obs Effect Conc	100 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ACETONE	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	Other methods
ACETONE	67-64-1	Experimental	28 days	Biological	78 % weight	OECD 301D - Closed

		Biodegradation		Oxygen Demand		Bottle Test
BUTANE	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	12.3 days (t 1/2)	Other methods
PROPANE	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	Other methods
N-BUTYL ACETATE	123-86-4	Experimental Biodegradation	28 days	Biological Oxygen Demand	98 % weight	OECD 301D - Closed Bottle Test
ETHYL ACETATE	141-78-6	Experimental Photolysis		Photolytic half-life (in air)	20.0 days (t 1/2)	Other methods
ETHYL ACETATE	141-78-6	Experimental Biodegradation	14 days	Biological Oxygen Demand	94 % BOD/ThBOD	OECD 301C - MITI (I)
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	78 %BOD/COD	OECD 301F - Manometric Respiro
XYLENE	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	Other methods
XYLENE	1330-20-7	Experimental Biodegradation	28 days	Biological Oxygen Demand	90-98 % BOD/ThBOD	OECD 301F - Manometric Respiro
METHYL ETHYL KETONE	78-93-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	98 % BOD/ThBOD	OECD 301D - Closed Bottle Test

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ACETONE	67-64-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.24	Other methods
BUTANE	106-97-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.89	Other methods
PROPANE	74-98-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.36	Other methods
N-BUTYL ACETATE	123-86-4	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.78	Other methods
ETHYL ACETATE	141-78-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.68	Other methods
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Estimated BCF-Carp	42 days	Bioaccumulation Factor	598	OECD 305E-Bioaccum Fl-thru fis
XYLENE	1330-20-7	Experimental BCF - Rainbow	56 days	Bioaccumulation Factor	25.9	Other methods

		Tr				
METHYL ETHYL KETONE	78-93-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.29	Other methods

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
Proper Shipping Name:AEROSOLS, FLAMMABLE
Technical Name: None assigned.
Hazard Class/Division:2.1
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: Yes
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Air Transport (IATA)

UN Number:UN1950
Proper Shipping Name:AEROSOLS, FLAMMABLE
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.

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.

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