



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™ Electrical Insulating Sealer 1602-R, Red

Product Identification Numbers

80-6107-3299-4 80-6116-0633-8

1.2. Recommended use and restrictions on use

Recommended use

Electrical

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
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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.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2.
Carcinogenicity: Category 2.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Chronic Aquatic Toxicity: Category 3.

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.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H335	May cause respiratory irritation.
H370	Causes damage to organs: cardiovascular system.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

General:

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

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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.
P271	Use only outdoors or in a well-ventilated area.
P281	Use personal protective equipment as required.

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.
P308 + P313	IF exposed or concerned: Get medical attention.
P312	Call a POISON CENTER or doctor if you feel unwell.

Storage:

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

Disposal:

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

Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal., May cause drowsiness or dizziness., May displace oxygen and cause rapid suffocation., Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
METHYL ACETATE	79-20-9	20 - 30
METHYL ETHYL KETONE	78-93-3	15 - 25
PROPANE	74-98-6	12 - 18
BUTANE	106-97-8	10 - 15
Resin Epoxy Ester	Trade Secret	5 - 10
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	2 - 6
METHYL ISOBUTYL KETONE	108-10-1	3 - 6
N-BUTYL ACETATE	123-86-4	2 - 5
CALCIUM CARBONATE	471-34-1	2 - 5
IRON OXIDE (FE ₂ O ₃)	1309-37-1	2 - 5
Xylene	1330-20-7	<= 0.5
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	< 3
TOLUENE	108-88-3	0.3 - 0.7

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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

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**

Carbon monoxide

Carbon dioxide

Condition

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 could cause flammable gases or vapors in the spill area to burn or explode. 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.

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 that is resistant to polar solvents. 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**

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 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. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. 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	Malaysia OELs	TWA(8 hours):1900 mg/m ³ (800 ppm)	
Natural gas	106-97-8	ACGIH	Limit value not established:	simple asphyxiant
METHYL ISOBUTYL KETONE	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
METHYL ISOBUTYL KETONE	108-10-1	Malaysia OELs	TWA(8 hours):205 mg/m ³ (50 ppm)	
TOLUENE	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
TOLUENE	108-88-3	Malaysia OELs	TWA(8 hours):188 mg/m ³ (50 ppm)	SKIN
Butyl acetates, all isomers	123-86-4	ACGIH	TWA:50 ppm;STEL:150 ppm	
N-BUTYL ACETATE	123-86-4	Malaysia OELs	TWA(8 hours):713 mg/m ³ (150 ppm)	
IRON OXIDE (FE ₂ O ₃)	1309-37-1	ACGIH	TWA(respirable fraction):5 mg/m ³	A4: Not class. as human carcin
IRON OXIDE (FE ₂ O ₃)	1309-37-1	Malaysia OELs	TWA (proposed)(as Fe, dust and fume)(8 hours):5 mg/m ³ (2 ppm)	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	Malaysia OELs	TWA(8 hours):434 mg/m ³ (100 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:75 ppm;STEL:150 ppm	Danger of cutaneous absorption
METHYL ETHYL KETONE	78-93-3	Malaysia OELs	TWA(8 hours):590 mg/m ³ (200 ppm)	
METHYL ACETATE	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	
METHYL ACETATE	79-20-9	Malaysia OELs	TWA(8 hours):606 mg/m ³ (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

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:

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: 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 cartridges 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	Pungent Ketones
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	-8.9 °C [Test Method: Closed Cup] [Details: Methyl acetate.]
Evaporation rate	No Data Available
Flammability	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	1.4 % [Details: Liquid portion.]
Flammable Limits(UEL)	16 % [Details: Liquid portion.]
Vapor Pressure	No Data Available
Relative Vapor Density	No Data Available
Density	792 g/l
Relative Density	0.8 [Ref Std: WATER=1] [Details: Liquid portion.]
Water solubility	No Data Available
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available

Kinematic Viscosity	<i>Not Applicable</i>
Volatile Organic Compounds	<i>No Data Available</i>
Percent volatile	86 % volume
VOC Less H2O & Exempt Solvents	<i>No Data Available</i>
Bulk density	<i>No Data Available</i>

Particle Characteristics	<i>Not Applicable</i>
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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

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	Normal Use
Ketones	Normal Use

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:

Harmful if inhaled. 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:

Prolonged or repeated exposure may cause: Dermal Defatting: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

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. 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. 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.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >1 - =5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 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
METHYL ACETATE	Dermal	Rat	LD50 > 2,000 mg/kg
METHYL ACETATE	Inhalation-Vapor (4 hours)	Rat	LC50 > 49 mg/l
METHYL ACETATE	Ingestion	Rat	LD50 > 5,000 mg/kg
PROPANE	Inhalation-Gas (4 hours)	Rat	LC50 > 200,000 ppm
BUTANE	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
METHYL ISOBUTYL KETONE	Dermal	Rabbit	LD50 > 16,000 mg/kg
METHYL ISOBUTYL KETONE	Inhalation-Vapor (4 hours)	Rat	LC50 11 mg/l
METHYL ISOBUTYL KETONE	Ingestion	Rat	LD50 3,038 mg/kg
N-BUTYL ACETATE	Dermal	Rabbit	LD50 > 14,112 mg/kg

N-BUTYL ACETATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.8 mg/l
N-BUTYL ACETATE	Inhalation-Vapor (4 hours)	Rat	LC50 > 21 mg/l
N-BUTYL ACETATE	Ingestion	Rat	LD50 > 10,760 mg/kg
IRON OXIDE (FE2O3)	Dermal	Not available	LD50 3,100 mg/kg
IRON OXIDE (FE2O3)	Ingestion	Not available	LD50 3,700 mg/kg
CALCIUM CARBONATE	Dermal	Rat	LD50 > 2,000 mg/kg
CALCIUM CARBONATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
CALCIUM CARBONATE	Ingestion	Rat	LD50 6,450 mg/kg
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	Dermal	Guinea pig	LD50 > 18,800 mg/kg
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 8 mg/l
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	Ingestion	Rat	LD50 > 3,200 mg/kg
TOLUENE	Dermal	Rat	LD50 12,000 mg/kg
TOLUENE	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
TOLUENE	Ingestion	Rat	LD50 5,550 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
METHYL ETHYL KETONE	Rabbit	Minimal irritation
METHYL ACETATE	Rabbit	No significant irritation
PROPANE	Rabbit	Minimal irritation
BUTANE	Professional judgement	No significant irritation
METHYL ISOBUTYL KETONE	Rabbit	Mild irritant
N-BUTYL ACETATE	Rabbit	No significant irritation
CALCIUM CARBONATE	Rabbit	No significant irritation
IRON OXIDE (FE2O3)	Rabbit	No significant irritation
TOLUENE	Rabbit	Irritant
Xylene	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
METHYL ETHYL KETONE	Rabbit	Severe irritant
METHYL ACETATE	Rabbit	Moderate irritant
PROPANE	Rabbit	Mild irritant
BUTANE	Rabbit	No significant irritation
METHYL ISOBUTYL KETONE	Rabbit	Mild irritant
N-BUTYL ACETATE	Human	Mild irritant
CALCIUM CARBONATE	Rabbit	No significant irritation
IRON OXIDE (FE2O3)	Rabbit	No significant irritation
TOLUENE	Rabbit	Moderate irritant
Xylene	Rabbit	Mild irritant

Sensitization:**Skin Sensitization**

Name	Species	Value
METHYL ACETATE	Human	Not classified
METHYL ISOBUTYL KETONE	Guinea pig	Not classified
N-BUTYL ACETATE	Multiple animal species	Not classified
IRON OXIDE (FE2O3)	Human	Not classified
TOLUENE	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
METHYL ETHYL KETONE	In Vitro	Not mutagenic
METHYL ACETATE	In Vitro	Not mutagenic
METHYL ACETATE	In vivo	Not mutagenic
PROPANE	In Vitro	Not mutagenic
BUTANE	In Vitro	Not mutagenic
METHYL ISOBUTYL KETONE	In Vitro	Not mutagenic
N-BUTYL ACETATE	In Vitro	Not mutagenic
IRON OXIDE (FE2O3)	In Vitro	Not mutagenic
TOLUENE	In Vitro	Not mutagenic
TOLUENE	In vivo	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
METHYL ETHYL KETONE	Inhalation	Human	Not carcinogenic
METHYL ISOBUTYL KETONE	Inhalation	Multiple animal species	Carcinogenic
IRON OXIDE (FE2O3)	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
TOLUENE	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
TOLUENE	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

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
METHYL ETHYL KETONE	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation

METHYL ISOBUTYL KETONE	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
METHYL ISOBUTYL KETONE	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
METHYL ISOBUTYL KETONE	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
N-BUTYL ACETATE	Inhalation	Not classified for female reproduction	Rat	NOAEL 9.5 mg/l	2 generation
N-BUTYL ACETATE	Inhalation	Not classified for male reproduction	Rat	NOAEL 9.5 mg/l	2 generation
N-BUTYL ACETATE	Inhalation	Not classified for development	Rat	NOAEL 3.6 mg/l	2 generation
CALCIUM CARBONATE	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	Ingestion	Toxic to development	Rabbit	NOAEL 300 mg/kg/day	during gestation
TOLUENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
TOLUENE	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
TOLUENE	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
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

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
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 judgement	NOAEL Not available	
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
METHYL ACETATE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	

METHYL ACETATE	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
METHYL ACETATE	Inhalation	blindness	Not classified		NOAEL Not available	
METHYL ACETATE	Ingestion	central nervous system depression	May cause drowsiness or dizziness		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	
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	
METHYL ISOBUTYL KETONE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
METHYL ISOBUTYL KETONE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
METHYL ISOBUTYL KETONE	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
METHYL ISOBUTYL KETONE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
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	
CALCIUM CARBONATE	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
TOLUENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
TOLUENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
TOLUENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
METHYL ETHYL KETONE	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
METHYL ETHYL KETONE	Inhalation	liver	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	heart	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	endocrine system	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	immune system	Not classified	Rat	NOAEL 14.7 mg/l	90 days
METHYL ETHYL KETONE	Inhalation	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
METHYL ACETATE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	28 days
METHYL ACETATE	Inhalation	endocrine system	Not classified	Rat	NOAEL 6.1 mg/l	28 days
METHYL ACETATE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6.1 mg/l	28 days
METHYL ACETATE	Inhalation	liver	Not classified	Rat	NOAEL 6.1 mg/l	28 days
METHYL ACETATE	Inhalation	immune system	Not classified	Rat	NOAEL 6.1 mg/l	28 days
METHYL ACETATE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 6.1 mg/l	28 days
BUTANE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,489 ppm	90 days
BUTANE	Inhalation	blood	Not classified	Rat	NOAEL 4,489 ppm	90 days
METHYL ISOBUTYL KETONE	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
METHYL ISOBUTYL KETONE	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
METHYL ISOBUTYL KETONE	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
METHYL ISOBUTYL KETONE	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
METHYL ISOBUTYL KETONE	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
METHYL ISOBUTYL KETONE	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
METHYL ISOBUTYL KETONE	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000	13 weeks

					mg/kg/day	
METHYL ISOBUTYL KETONE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
METHYL ISOBUTYL KETONE	Ingestion	heart	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
METHYL ISOBUTYL KETONE	Ingestion	immune system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
METHYL ISOBUTYL KETONE	Ingestion	muscles	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
METHYL ISOBUTYL KETONE	Ingestion	nervous system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
METHYL ISOBUTYL KETONE	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
N-BUTYL ACETATE	Inhalation	endocrine system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	liver	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	nervous system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 4.8 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	respiratory system	Not classified	Rat	NOAEL 4.8 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	heart	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	immune system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	eyes	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
N-BUTYL ACETATE	Inhalation	vascular system	Not classified	Rat	NOAEL 9.6 mg/l	13 weeks
CALCIUM CARBONATE	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
IRON OXIDE (FE2O3)	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
IRON OXIDE (FE2O3)	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	auditory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	eyes	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
TOLUENE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
TOLUENE	Inhalation	heart	Not classified	Rat	NOAEL 11.3	15 weeks

					mg/l	
TOLUENE	Inhalation	liver	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
TOLUENE	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
TOLUENE	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
TOLUENE	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	vascular system	Not classified	Human	NOAEL Not available	occupational exposure
TOLUENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
TOLUENE	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
TOLUENE	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	liver	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
TOLUENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
TOLUENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
TOLUENE	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
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	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Inhalation	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	Not classified	Rat	NOAEL	90 days

		bladder			1,500 mg/kg/day	
Xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks

Aspiration Hazard

Name	Value
METHYL ISOBUTYL KETONE	Some positive data exist, but the data are not sufficient for classification
TOLUENE	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:**

Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:

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

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
METHYL ACETATE	79-20-9	Green algae	Experimental	72 hours	ErC50	>120 mg/l

METHYL ACETATE	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l
METHYL ACETATE	79-20-9	Zebra Fish	Experimental	96 hours	LC50	250 mg/l
METHYL ACETATE	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
METHYL ACETATE	79-20-9	Bacteria	Experimental	16 hours	EC50	6,000 mg/l
METHYL ETHYL KETONE	78-93-3	Fathead Minnow	Experimental	96 hours	LC50	2,993 mg/l
METHYL ETHYL KETONE	78-93-3	Green algae	Experimental	96 hours	ErC50	2,029 mg/l
METHYL ETHYL KETONE	78-93-3	Water flea	Experimental	48 hours	EC50	308 mg/l
METHYL ETHYL KETONE	78-93-3	Green algae	Experimental	96 hours	ErC10	1,289 mg/l
METHYL ETHYL KETONE	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
METHYL ETHYL KETONE	78-93-3	Bacteria	Experimental	16 hours	LOEC	1,150 mg/l
PROPANE	74-98-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
BUTANE	106-97-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
METHYL ISOBUTYL KETONE	108-10-1	Green algae	Experimental	96 hours	EC50	400 mg/l
METHYL ISOBUTYL KETONE	108-10-1	Water flea	Experimental	48 hours	EC50	>200 mg/l
METHYL ISOBUTYL KETONE	108-10-1	Zebra Fish	Experimental	96 hours	LC50	>179 mg/l
METHYL ISOBUTYL KETONE	108-10-1	Fathead Minnow	Experimental	32 days	NOEC	56.2 mg/l
METHYL ISOBUTYL KETONE	108-10-1	Water flea	Experimental	21 days	NOEC	78 mg/l
METHYL ISOBUTYL KETONE	108-10-1	Activated sludge	Experimental	30 minutes	EC50	>1,000
CALCIUM CARBONATE	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Rainbow Trout	Experimental	96 hours	LC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
CALCIUM CARBONATE	471-34-1	Green algae	Experimental	72 hours	EC10	100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
IRON OXIDE (FE2O3)	1309-37-1	Activated sludge	Experimental	3 hours	EC50	>10,000 mg/l

N-BUTYL ACETATE	123-86-4	Green algae	Analogous Compound	72 hours	ErC50	397 mg/l
N-BUTYL ACETATE	123-86-4	Fathead Minnow	Experimental	96 hours	LC50	18 mg/l
N-BUTYL ACETATE	123-86-4	Water flea	Experimental	48 hours	EC50	44 mg/l
N-BUTYL ACETATE	123-86-4	Green algae	Analogous Compound	72 hours	NOEC	196 mg/l
N-BUTYL ACETATE	123-86-4	Water flea	Analogous Compound	21 days	NOEC	23.2 mg/l
N-BUTYL ACETATE	123-86-4	Ciliated protozoa	Experimental	40 hours	IC50	356 mg/l
N-BUTYL ACETATE	123-86-4	Lettuce	Experimental	14 days	EC50	>1,000 mg/kg (Dry Weight)
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	ErC50	4.36 mg/l
Xylene	1330-20-7	Rainbow Trout	Analogous Compound	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green algae	Analogous Compound	73 hours	NOEC	0.44 mg/l
Xylene	1330-20-7	Water flea	Analogous Compound	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Rainbow Trout	Experimental	56 days	NOEC	1.3 mg/l
Xylene	1330-20-7	Activated sludge	Analogous Compound	30 minutes	EC50	>198 mg/l
Xylene	1330-20-7	Redworm	Experimental	56 days	NOEC	42.6 mg/kg (Dry Weight)
Xylene	1330-20-7	Soil microbes	Experimental	28 days	EC50	>1,000 mg/kg (Dry Weight)
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Green algae	Experimental	72 hours	EbC50	8 mg/l
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Medaka	Experimental	96 hours	LC50	18 mg/l
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Green algae	Experimental	72 hours	NOEC	5.3 mg/l
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Water flea	Experimental	21 days	NOEC	0.7 mg/l
TOLUENE	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
TOLUENE	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
TOLUENE	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
TOLUENE	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
TOLUENE	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
TOLUENE	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
TOLUENE	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
TOLUENE	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
TOLUENE	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
TOLUENE	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
TOLUENE	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
TOLUENE	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
TOLUENE	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
TOLUENE	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
METHYL ACETATE	79-20-9	Experimental Biodegradation	28 days	Biological Oxygen Demand	70 %BOD/ThOD	OECD 301D - Closed Bottle Test
METHYL ACETATE	79-20-9	Experimental Aquatic Inherent Biodegrad.	6 days	Dissolv. Organic Carbon Deplet	>95 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
METHYL ACETATE	79-20-9	Experimental Photolysis		Photolytic half-life (in air)	94 days (t 1/2)	
METHYL ACETATE	79-20-9	Experimental Hydrolysis		Hydrolytic half-life	44 days (t 1/2)	
METHYL ETHYL KETONE	78-93-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	98 %BOD/ThOD	OECD 301D - Closed Bottle Test
PROPANE	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t 1/2)	
BUTANE	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	12.3 days (t 1/2)	
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	Data not availbl-insufficient	N/A	N/A	N/A	N/A
METHYL ISOBUTYL KETONE	108-10-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	83 %BOD/ThOD	OECD 301F - Manometric Respiro
METHYL ISOBUTYL KETONE	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.3 days (t 1/2)	
CALCIUM CARBONATE	471-34-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
IRON OXIDE (FE2O3)	1309-37-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
N-BUTYL ACETATE	123-86-4	Experimental Biodegradation	28 days	Biological Oxygen Demand	83 %BOD/ThOD	OECD 301D - Closed Bottle Test
N-BUTYL ACETATE	123-86-4	Experimental Photolysis		Photolytic half-life (in air)	6.3 days (t 1/2)	
N-BUTYL ACETATE	123-86-4	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	3.1 years (t 1/2)	
Xylene	1330-20-7	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	94 %BOD/ThOD	OECD 301F - Manometric Respiro
Xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Experimental Biodegradation	28 days	Carbon dioxide evolution	70.73 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Mod. Sturm or CO2
TOLUENE	108-88-3	Experimental Biodegradation	20 days	Biological Oxygen Demand	80 %BOD/ThOD	APHA Std Meth Water/Wastewater
TOLUENE	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
METHYL ACETATE	79-20-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.18	
METHYL ETHYL KETONE	78-93-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.3	OECD 117 log Kow HPLC method
PROPANE	74-98-6	Experimental Bioconcentration		Log of Octanol/H2O part.	2.36	

				coeff		
BUTANE	106-97-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.89	
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	Estimated Bioconcentration		Bioaccumulation Factor	7.4	
METHYL ISOBUTYL KETONE	108-10-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.9	OECD 117 log Kow HPLC method
CALCIUM CARBONATE	471-34-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
IRON OXIDE (FE2O3)	1309-37-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N-BUTYL ACETATE	123-86-4	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.3	OECD 117 log Kow HPLC method
Xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation Factor	<=25.9	
Xylene	1330-20-7	Analogous Compound Bioconcentration		Log of Octanol/H2O part. coeff	3.2	
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	6846-50-0	Experimental BAF - Fish	42 days	Bioaccumulation Factor	≤31	OECD305-Bioconcentration
TOLUENE	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation Factor	90	
TOLUENE	108-88-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	2.73	

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

Marine Transport (IMDG)

UN Number:UN1950

Proper Shipping Name:AEROSOLS

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

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 in this Safety Data Sheet (SDS) is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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