



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

### SECTION 1: Identification

#### 1.1. Product identifier

3M Electrical Insulating Sealer, Clear, 1601-C

#### Product Identification Numbers

80-6116-1660-0

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Electrical

#### 1.3. Supplier's details

**Address:** 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100  
**Telephone:** 080-39143000, contact Product EHS team  
**E Mail:** productehs.in@mmm.com  
**Website:** <http://solutions.3mindia.co.in>

#### 1.4. Emergency telephone number

080-39143000 (Contact hours: 8:00 AM to 5:00 PM)

### SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

#### 2.1. Classification of the substance or mixture

Flammable Aerosol: Category 2.  
Acute Toxicity (inhalation): Category 5.  
Serious Eye Damage/Irritation: Category 2A  
Reproductive Toxicity: Category 2.  
Carcinogenicity: Category 2.  
Specific Target Organ Toxicity (single exposure): Category 1.  
Specific Target Organ Toxicity (single exposure): Category 3.  
Acute Aquatic Toxicity: Category 3.

## 2.2. Label elements

### Signal Word

DANGER!

### Symbols

Flame | Exclamation mark | Health Hazard |

### Pictograms



### HAZARD STATEMENTS:

H223	Flammable aerosol.
H333	May be harmful if inhaled.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H351	Suspected of causing cancer.
H370	Causes damage to organs: cardiovascular system
H371	May cause damage to organs: respiratory system
H402	Harmful to aquatic life.

### PRECAUTIONARY STATEMENTS

#### 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/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P281	Use personal protective equipment as required.

#### Response:

P304 + P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
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	IF exposed:
P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.
P309	IF exposed or if you feel unwell:
P311	Call a POISON CENTER or doctor/physician.

#### Storage:

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
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local/regional/national/international regulations.

### 2.3. Other hazards

3M Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal.

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Methyl Acetate	79-20-9	33 35
Butanone	78-93-3	24 26
Propane	74-98-6	12 14
Butane	106-97-8	11 13
Resin Epoxy Ester	Trade Secret	5 10
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	2 5
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	2 4
4-Methylpentan-2-one	108-10-1	1 3
n-butyl acetate	123-86-4	1 3
Calcium bis(2-ethylhexanoate)	136-51-6	0 1
Zirconium Alkonate	22464-99-9	0 1

## 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**

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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

### **6.2. Environmental precautions**

Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

### **6.3. Methods and material for containment and cleaning up**

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. 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. 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. 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/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) as required.

### **7.2. Conditions for safe storage including any incompatibilities**

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50C/122F. Store away from acids. Store away from oxidising agents.

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Occupational exposure limits**

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

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for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Butane	106-97-8	ACGIH	STEL:1000 ppm	
4-Methylpentan-2-one	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
n-butyl acetate	123-86-4	ACGIH	TWA:50 ppm;STEL:150 ppm	
Carbonic Acid, Zirconium Complex	22464-99-9	ACGIH	TWA(as Zr):5 mg/m3;STEL(as Zr):10 mg/m3	A4: Not class. as human carcin
Propane	74-98-6	ACGIH	Limit value not established:	
Butanone	78-93-3	ACGIH	TWA:200 ppm;STEL:300 ppm	
Methyl Acetate	79-20-9	ACGIH	TWA:200 ppm;STEL:250 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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/vapours/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 vapours 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.

<b>Specific Physical Form:</b>	Aerosol
<b>Appearance/Odour</b>	Clear, MEK odor
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>No data available.</i>
<b>Melting point/Freezing point: NA</b>	<i>Not applicable.</i>
<b>Flash point</b>	-29 °C [ <i>Test Method:</i> Pensky-Martens Closed Cup]
<b>Evaporation rate</b>	5.6 [ <i>Ref Std:</i> BUOAC=1]
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	1.38 %
<b>Flammable Limits(UEL)</b>	16 %
<b>Vapour pressure</b>	13.5 kPa
<b>Vapour density</b>	1.55 [ <i>Ref Std:</i> AIR=1]
<b>Density</b>	0.7 kg/l
<b>Water solubility</b>	<i>No data available.</i>
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity</b>	<=20.5 mm <sup>2</sup> /sec

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

Sparks and/or flames.

### 10.5 Incompatible materials

Not determined

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1 Information on Toxicological effects

## Signs and Symptoms of Exposure

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

### Inhalation

May be harmful if inhaled. 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

Dermal Defatting: Signs/symptoms may include localised 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 diarrhoea. 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. Cardiac sensitisation: 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 coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

#### 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	Inhalation-Vapor(4 hr)		No data available; calculated ATE20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 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
Butanone	Dermal	Rabbit	LD50 > 8,050 mg/kg
Butanone	Inhalation-Vapor (4 hours)	Rat	LC50 34.5 mg/l
Butanone	Ingestion	Rat	LD50 2,737 mg/kg
Propane	Inhalation-Gas (4	Rat	LC50 > 200,000 ppm

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	hours)		
Butane	Inhalation-Gas (4 hours)	Rat	LC50 277,000 ppm
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	Dermal	Guinea pig	LD50 > 18,800 mg/kg
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 8 mg/l
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	Ingestion	Rat	LD50 > 3,200 mg/kg
4-Methylpentan-2-one	Dermal	Rabbit	LD50 > 16,000 mg/kg
4-Methylpentan-2-one	Inhalation-Vapor (4 hours)	Rat	LC50 > 8.2, < 16.4 mg/l
4-Methylpentan-2-one	Ingestion	Rat	LD50 3,038 mg/kg
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
Calcium bis(2-ethylhexanoate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Calcium bis(2-ethylhexanoate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.2 mg/l
Calcium bis(2-ethylhexanoate)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Methyl Acetate	Rabbit	No significant irritation
Butanone	Rabbit	Minimal irritation
Propane	Rabbit	Minimal irritation
Butane	Professional judgement	No significant irritation
4-Methylpentan-2-one	Rabbit	Mild irritant
n-butyl acetate	Rabbit	Minimal irritation
Calcium bis(2-ethylhexanoate)	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
Methyl Acetate	Rabbit	Moderate irritant
Butanone	Rabbit	Severe irritant
Propane	Rabbit	Mild irritant
Butane	Rabbit	No significant irritation
4-Methylpentan-2-one	Rabbit	Mild irritant
n-butyl acetate	Rabbit	Moderate irritant
Calcium bis(2-ethylhexanoate)	Rabbit	Corrosive

**Skin Sensitisation**

Name	Species	Value
Methyl Acetate	Human	Not sensitizing
4-Methylpentan-2-one	Guinea pig	Not sensitizing
n-butyl acetate	Multiple animal species	Not sensitizing



**3M Electrical Insulating Sealer, Clear, 1601-C****Respiratory Sensitisation**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

Name	Route	Value
Methyl Acetate	In Vitro	Not mutagenic
Methyl Acetate	In vivo	Not mutagenic
Butanone	In Vitro	Not mutagenic
Propane	In Vitro	Not mutagenic
Butane	In Vitro	Not mutagenic
4-Methylpentan-2-one	In Vitro	Not mutagenic
n-butyl acetate	In Vitro	Not mutagenic
Calcium bis(2-ethylhexanoate)	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Butanone	Inhalation	Human	Not carcinogenic
4-Methylpentan-2-one	Inhalation	Multiple animal species	Carcinogenic.

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

Name	Route	Value	Species	Test result	Exposure Duration
Butanone	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	LOAEL 8.8 mg/l	during gestation
4-Methylpentan-2-one	Inhalation	Not toxic to female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-Methylpentan-2-one	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-Methylpentan-2-one	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-Methylpentan-2-one	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 12.3 mg/l	during organogenesis
n-butyl acetate	Inhalation	Not toxic to female reproduction	Rat	NOAEL 7.1 mg/l	prematuring & during gestation
n-butyl acetate	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 7.1 mg/l	prematuring & during gestation
Calcium bis(2-ethylhexanoate)	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
Calcium bis(2-ethylhexanoate)	Ingestion	Toxic to development	Rat	NOAEL 100 mg/kg/day	1 generation

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

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Methyl Acetate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	

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Methyl Acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Methyl Acetate	Inhalation	blindness	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Methyl Acetate	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Butanone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	official classification	NOAEL Not available	
Butanone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Butanone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Butanone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	not applicable
Butanone	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 1,080 mg/kg	not applicable
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	
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	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 5,000 ppm	25 minutes
Butane	Inhalation	respiratory irritation	All data are negative	Rabbit	NOAEL Not available	
4-Methylpentan-2-one	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
4-Methylpentan-2-one	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL 0.9 mg/l	7 minutes
4-Methylpentan-2-one	Inhalation	vascular system	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL Not available	not available
4-Methylpentan-2-one	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
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	
Calcium bis(2-ethylhexanoate)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Methyl Acetate	Inhalation	respiratory system	Some positive data exist, but the	Rat	NOAEL 1.1	28 days

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			data are not sufficient for classification		mg/l	
Methyl Acetate	Inhalation	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 6.1 mg/l	28 days
Butanone	Dermal	nervous system	All data are negative	Guinea pig	NOAEL Not available	31 weeks
Butanone	Inhalation	liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Inhalation	heart   endocrine system   bone, teeth, nails, and/or hair   hematopoietic system   immune system   muscles	All data are negative	Rat	NOAEL 14.7 mg/l	90 days
Butanone	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	7 days
Butanone	Ingestion	nervous system	All data are negative	Rat	NOAEL 173 mg/kg/day	90 days
Butane	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,489 ppm	90 days
Butane	Inhalation	blood	All data are negative	Rat	NOAEL 4,489 ppm	90 days
4-Methylpentan-2-one	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.41 mg/l	13 weeks
4-Methylpentan-2-one	Inhalation	heart	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
4-Methylpentan-2-one	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.4 mg/l	90 days
4-Methylpentan-2-one	Inhalation	respiratory system	All data are negative	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
4-Methylpentan-2-one	Inhalation	endocrine system   hematopoietic system	All data are negative	Multiple animal species	NOAEL 0.41 mg/l	90 days
4-Methylpentan-2-one	Inhalation	nervous system	All data are negative	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
4-Methylpentan-2-one	Ingestion	endocrine system   hematopoietic system   liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-Methylpentan-2-one	Ingestion	heart   immune system   muscles   nervous system   respiratory system	All data are negative	Rat	NOAEL 1,040 mg/kg/day	120 days
n-butyl acetate	Inhalation	olfactory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	14 weeks
n-butyl acetate	Inhalation	liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 7.26 mg/l	13 days

**Aspiration Hazard**

Name	Value
4-Methylpentan-2-one	Some positive data exist, but the data are not sufficient for classification

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

## SECTION 12: Ecological information

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

### 12.1. Toxicity

#### Acute aquatic hazard:

GHS Acute 3: Harmful to aquatic life.

#### Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
n-butyl acetate	123-86-4	Green algae	Experimental	72 hours	EC50	674.7 mg/l
n-butyl acetate	123-86-4	Crustacea	Experimental	48 hours	EC50	32 mg/l
n-butyl acetate	123-86-4	Fathead minnow	Experimental	96 hours	LC50	18 mg/l
4-Methylpentan-2-one	108-10-1	Goldfish	Experimental	24 hours	LC50	460 mg/l
4-Methylpentan-2-one	108-10-1	Water flea	Experimental	48 hours	EC50	170 mg/l
4-Methylpentan-2-one	108-10-1	Water flea	Experimental	21 days	NOEC	7.8 mg/l
4-Methylpentan-2-one	108-10-1	Fathead minnow	Experimental	32 days	NOEC	57 mg/l
4-Methylpentan-2-one	108-10-1	Green Algae	Experimental	96 hours	EC50	400 mg/l
Methyl Acetate	79-20-9	Fathead minnow	Experimental	96 hours	LC50	320 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Water flea	Estimated	48 hours	EC50	97 mg/l
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Water flea	Experimental	21 days	NOEC	3.2 mg/l
1-isopropyl-2,2-dimethyltrimet	6846-50-0	Green algae	Experimental	72 hours	NOEC	5.3 mg/l

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hylene diisobutyrate						
Zirconium Alkonate	22464-99-9		Data not available or insufficient for classification			
Methyl Acetate	79-20-9	Water flea	Experimental	48 hours	EC50	1,026.7 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Green algae	Estimated	96 hours	EC50	46 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Fathead minnow	Estimated	96 hours	LC50	79 mg/l
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0		Data not available or insufficient for classification			
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Ricefish	Experimental	96 hours	LC50	18 mg/l
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Green Algae	Experimental	72 hours	EC50	8 mg/l
Resin Epoxy Ester	Trade Secret		Data not available or insufficient for classification			
Zirconium Alkonate	22464-99-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Zirconium Alkonate	22464-99-9	Zebra Fish	Estimated	96 hours	Lethal Level 50%	>100 mg/l
Zirconium Alkonate	22464-99-9	Green Algae	Estimated	72 hours	NOEC	130 mg/l
Zirconium Alkonate	22464-99-9	Ricefish	Estimated	96 hours	LC50	>100 mg/l
Zirconium Alkonate	22464-99-9	Water flea	Estimated	21 days	NOEC	18 mg/l
Zirconium Alkonate	22464-99-9	Green Algae	Estimated	72 hours	EC50	500 mg/l
Propane	74-98-6		Data not available or insufficient for classification			
n-butyl acetate	123-86-4	Water flea	Experimental	24 hours	EC50	72.8 mg/l
n-butyl acetate	123-86-4	Green algae	Experimental	72 hours	EC50	674.7 mg/l
n-butyl acetate	123-86-4	Crustacea	Experimental	48 hours	LC50	32 mg/l
4-Methylpentan-2-one	108-10-1	Water flea	Experimental	48 hours	EC50	170 mg/l
4-	108-10-1	Fathead	Experimental	96 hours	LC50	505 mg/l

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Methylpentan-2-one		minnow				
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	NOEC	120 mg/l
Methyl Acetate	79-20-9	Green algae	Experimental	72 hours	EC50	>120 mg/l
Butane	106-97-8		Data not available or insufficient for classification			
Butanone	78-93-3	Green algae	Experimental	72 hours	EC50	>1,200 mg/l
Butanone	78-93-3	Mysid Shrimp	Experimental	96 hours	LC50	>402 mg/l
Butanone	78-93-3	Green Algae	Experimental	72 hours	NOEC	93 mg/l
Butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
Butanone	78-93-3	Ricefish	Experimental	96 hours	LC50	>100 mg/l
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Green Algae	Experimental	72 hours	NOEC	5.3 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Water flea	Estimated	21 days	NOEC	28 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Green algae	Estimated	96 hours	Effect Concentration 10%	28 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Green algae	Estimated	72 hours	EC50	56 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Water flea	Estimated	48 hours	EC50	97 mg/l
Calcium bis(2-ethylhexanoate)	136-51-6	Ricefish	Estimated	96 hours	LC50	>113 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Calcium bis(2-ethylhexanoate)	136-51-6	Estimated Biodegradation	20 days	BOD	83 % weight	Other methods
Butanone	78-93-3	Experimental Biodegradation	20 days	BOD	89 % weight	Other methods
n-butyl acetate	123-86-4	Experimental Biodegradation	28 days	BOD	98 % weight	OECD 301D - Closed bottle test
4-Methylpentan-2-one	108-10-1	Experimental Biodegradation	14 days	BOD	84 % weight	OECD 301C - MITI test (I)
Methyl Acetate	79-20-9	Experimental Biodegradation	14 days	BOD	74 % weight	OECD 301D - Closed bottle test
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Experimental Biodegradation	28 days	BOD	82 % weight	OECD 301C - MITI test (I)

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Resin Epoxy Ester	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Propane	74-98-6	Experimental Photolysis		Photolytic half-life (in air)	27.5 days (t <sub>1/2</sub> )	Other methods
Methyl Acetate	79-20-9	Experimental Photolysis		Photolytic half-life (in air)	1.8 hours (t <sub>1/2</sub> )	Other methods
Butane	106-97-8	Experimental Photolysis		Photolytic half-life (in air)	12.3 days (t <sub>1/2</sub> )	Other methods
Zirconium Alkonate	22464-99-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4-Methylpentan-2-one	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.28 days (t <sub>1/2</sub> )	Other methods

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4-Methylpentan-2-one	108-10-1	Experimental Bioconcentration		Log Kow	1.31	Other methods
Butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.29	Other methods
n-butyl acetate	123-86-4	Experimental Bioconcentration		Log Kow	1.78	Other methods
Methyl Acetate	79-20-9	Experimental Bioconcentration		Log Kow	0.18	Other methods
Butane	106-97-8	Experimental Bioconcentration		Log Kow	2.89	Other methods
Zirconium Alkonate	22464-99-9	Estimated Bioconcentration		Log Kow	4.37	Estimated: Octanol-water partition coefficient
Calcium bis(2-ethylhexanoate)	136-51-6	Estimated Bioconcentration		Bioaccumulation factor	5.49	Estimated: Bioconcentration factor
Propane	74-98-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	6846-50-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	<=31 mg/l	OECD 305C-Bioaccum degree fish

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BISPHENOL A-FORMALDEHYDE RESIN	25085-75-0	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
Resin Epoxy Ester	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other Adverse effects**

Material	CAS Nbr	Ozone Depletion Potential	Global Warming Potential
mibk	108-10-1	0	

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

See Section 11.1 Information on toxicological effects

Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Facility must be capable of handling aerosol cans. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**SECTION 14: Transport Information****Air Transport (IATA) Regulations**

UN No UN1950

Proper Shipping Name AEROSOLS, FLAMMABLE

Hazard Class/Division 2.1

Subsidiary Risk Not applicable

Packing Group: Not applicable

**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 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.

**Applicable Environmental, Health and Safety Regulations**

Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

Hazardous Waste(Management, Handling & Transboundary) Rules, 2008

Hazardous Chemicals (Classification, Packaging and Label Rules), 2001



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Central Motor Vehicle Rules, 1989

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

2-Butanone

Butane, all isomers

Butanone

4-Methylpentan-2-one

n-butyl acetate

Carbonic Acid, Zirconium Complex

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:

Product is classified as extremely flammable liquid

## SECTION 16: Other information

### NFPA Hazard Classification

**Health:** 2    **Flammability:** 4    **Instability:** 0    **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### Revision information:

No revision 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 India SDSs are available at <http://solutions.3mindia.co.in>