



## 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™ Scotchkote™ Electrical Coating FD

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

##### Recommended use

Electrical, Moisture proofing for wire connections.

#### 1.3. Supplier's details

**Address:** 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100  
**Telephone:** 080-45543000, contact Product EHS team  
**E Mail:** productehs.in@mmm.com  
**Website:** <http://solutions.3mindia.co.in>

#### 1.4. Emergency telephone number

080-45543000 (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 Liquid: Category 2.  
Serious Eye Damage/Irritation: Category 2A  
Skin Corrosion/Irritation: Category 3.  
Reproductive Toxicity: Category 1B.  
Specific Target Organ Toxicity (single exposure): Category 3.  
Specific Target Organ Toxicity (repeated exposure): Category 1.  
Acute Aquatic Toxicity: Category 2.  
Chronic Aquatic Toxicity: Category 2.

#### 2.2. Label elements

##### Signal Word

DANGER!

**Symbols**

Flame | Exclamation mark | Health Hazard | Environment |

**Pictograms**



**HAZARD STATEMENTS:**

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H316 Causes mild skin irritation.
- H336 May cause drowsiness or dizziness.
- H360 May damage fertility or the unborn child.
  
- H372 Causes damage to organs through prolonged or repeated exposure:  
nervous system  
sensory organs
  
- H411 Toxic to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS**

**General:**

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

**Prevention:**

- P201 Obtain special instructions before use.
- P210A Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P271 Use only outdoors or in a well-ventilated area.
- P280E Wear protective gloves.
- P273 Avoid release to the environment.

**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.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P370 + P378G In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**

- P405 Store locked up.

**Disposal:**

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

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Acetone	67-64-1	60 - 75
Acrylonitrile - butadiene polymer	9003-18-3	10 - 20
Resin acids and rosin acids, esters with glycerol	8050-31-5	5 - 10
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	5 - 10
Salicylic acid	69-72-7	< 3
Toluene	108-88-3	<= 2
Zinc oxide	1314-13-2	1 - 2
Cyclohexane	110-82-7	<= 1.5
Butanone	78-93-3	<= 1.5
n-Hexane	110-54-3	< 1
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	< 0.5
Heptane	142-82-5	<= 0.1

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation**

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin contact**

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. 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**

Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

Not applicable

**SECTION 5: Fire-fighting measures****5.1. Suitable Extinguishing media**

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**5.2. Special hazards arising from the substance or mixture**

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

**Hazardous Decomposition or By-Products**

Substance

Condition

Hydrocarbons.  
Carbon monoxide.  
Carbon dioxide.  
Oxides of nitrogen.

During combustion.  
During combustion.  
During combustion.  
During combustion.

### 5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. 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

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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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

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. Use only non-sparking tools. Take precautionary measures against static discharge. 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.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

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

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. 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 for the component.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
n-Hexane	110-54-3	ACGIH	TWA:50 ppm	Danger of cutaneous absorption
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Zinc oxide	1314-13-2	ACGIH	TWA(respirable fraction):2 mg/m <sup>3</sup> ;STEL(respirable fraction):10 mg/m <sup>3</sup>	
Heptane	142-82-5	ACGIH	TWA:400 ppm;STEL:500 ppm	
Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Butanone	78-93-3	ACGIH	TWA:200 ppm;STEL:300 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**

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. Use explosion-proof ventilation 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.

Gloves made from the following material(s) are recommended: Butyl rubber.

Fluoroelastomer

**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

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:	Viscous.
Color	Dark Brown
Odor	Sharp Solvent
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	$\geq 56$ °C [ <i>Details: Acetone</i> ]
Flash point	-20 °C [ <i>Test Method: Closed Cup</i> ]
Evaporation rate	1.9 [ <i>Ref Std: ETHER=1</i> ]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	2.6 %
Flammable Limits(UEL)	12.8 %
Vapour pressure	$\leq 24,664.6$ Pa [ <i>@ 20 °C</i> ]
Vapor Density and/or Relative Vapor Density	2 [ <i>Ref Std: AIR=1</i> ]
Density	0.87 g/ml
Relative density	0.87 [ <i>Ref Std: WATER=1</i> ]
Water solubility	Slight (less than 10%)
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	465 °C
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	325 mPa-s [ <i>@ 23 °C</i> ]
Volatile organic compounds (VOC)	$\leq 26.4$ g/l [ <i>Test Method: calculated SCAQMD rule 443.1</i> ] [ <i>Details: low solids less exempts</i> ]
Percent volatile	40 - 75 % weight
VOC less H2O & exempt solvents	$\leq 104$ g/l [ <i>Test Method: calculated SCAQMD rule 443.1</i> ]
VOC less H2O & exempt solvents	$\leq 0.87$ lb/gal [ <i>Test Method: calculated SCAQMD rule 443.1</i> ]
VOC less H2O & exempt solvents	$\leq 3$ % [ <i>Test Method: calculated per CARB title 2</i> ]
Average particle size	<i>No data available.</i>
Bulk density	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Softening point	<i>No data available.</i>
Solids content	$\geq 28$ % weight

**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 polymerisation will not occur.

#### 10.4 Conditions to avoid

Heat.

Sparks and/or flames.

#### 10.5 Incompatible materials

Strong oxidising agents.

#### 10.6 Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

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

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

##### Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced) in sensitive people: Signs/symptoms may include redness, swelling, blistering, and itching.

##### 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.

##### Prolonged or repeated exposure may cause target organ effects:

Ocular effects: Signs/symptoms may include blurred or significantly impaired vision. Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Olfactory effects: Signs/symptoms may include decreased ability to detect odours and complete loss of smell. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and

changes in blood pressure and heart rate.

### Reproductive/Developmental Toxicity:

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

### Toxicological Data

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

### Acute Toxicity

Name	Route	Species	Value
Overall product	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
Acrylonitrile - butadiene polymer	Dermal	Rabbit	LD50 > 15,000 mg/kg
Acrylonitrile - butadiene polymer	Ingestion	Rat	LD50 > 30,000 mg/kg
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Dermal		LD50 estimated to be > 5,000 mg/kg
Resin acids and rosin acids, esters with glycerol	Dermal	Rabbit	LD50 > 5,000 mg/kg
Resin acids and rosin acids, esters with glycerol	Ingestion	Rat	LD50 > 2,000 mg/kg
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Ingestion	Rat	LD50 5,660 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
Salicylic acid	Dermal	Rat	LD50 > 2,000 mg/kg
Salicylic acid	Ingestion	Rat	LD50 891 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
n-Hexane	Dermal	Rabbit	LD50 > 2,000 mg/kg
n-Hexane	Inhalation-Vapor (4 hours)	Rat	LC50 170 mg/l
n-Hexane	Ingestion	Rat	LD50 > 28,700 mg/kg
Cyclohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Cyclohexane	Inhalation-Vapor (4 hours)	Rat	LC50 > 32.9 mg/l
Cyclohexane	Ingestion	Rat	LD50 6,200 mg/kg
Zinc oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Zinc oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.7 mg/l
Zinc oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Dermal	Rat	LD50 > 2,000 mg/kg
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Ingestion	Rat	LD50 > 5,000 mg/kg
Heptane	Dermal	Rabbit	LD50 3,000 mg/kg
Heptane	Inhalation-Vapor (4 hours)	Rat	LC50 103 mg/l
Heptane	Ingestion	Rat	LD50 > 15,000 mg/kg

ATE = acute toxicity estimate



**Skin Corrosion/Irritation**

Name	Species	Value
Acetone	Mouse	Minimal irritation
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Resin acids and rosin acids, esters with glycerol	Rabbit	Minimal irritation
Toluene	Rabbit	Irritant
Salicylic acid	Rabbit	No significant irritation
Butanone	Rabbit	Minimal irritation
n-Hexane	Human and animal	Mild irritant
Cyclohexane	Rabbit	Mild irritant
Zinc oxide	Human and animal	No significant irritation
Heptane	Human	Mild irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Acetone	Rabbit	Severe irritant
Acrylonitrile - butadiene polymer	Professional judgement	No significant irritation
Resin acids and rosin acids, esters with glycerol	Rabbit	Mild irritant
Toluene	Rabbit	Moderate irritant
Salicylic acid	Rabbit	Corrosive
Butanone	Rabbit	Severe irritant
n-Hexane	Rabbit	Mild irritant
Cyclohexane	Rabbit	Mild irritant
Zinc oxide	Rabbit	Mild irritant
Heptane	Professional judgement	Moderate irritant

**Sensitization:****Skin Sensitisation**

Name	Species	Value
Resin acids and rosin acids, esters with glycerol	Guinea pig	Not classified
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	Human	Some positive data exist, but the data are not sufficient for classification
Toluene	Guinea pig	Not classified
Salicylic acid	Mouse	Not classified
n-Hexane	Human	Not classified
Zinc oxide	Guinea pig	Not classified

**Photosensitisation**

Name	Species	Value
Salicylic acid	Mouse	Not sensitizing

**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
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Resin acids and rosin acids, esters with glycerol	In Vitro	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Salicylic acid	In Vitro	Not mutagenic
Salicylic acid	In vivo	Not mutagenic
Butanone	In Vitro	Not mutagenic
n-Hexane	In Vitro	Not mutagenic
n-Hexane	In vivo	Not mutagenic
Cyclohexane	In Vitro	Not mutagenic
Cyclohexane	In vivo	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc oxide	In vivo	Some positive data exist, but the data are not sufficient for classification
Heptane	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Acetone	Not specified.	Multiple animal species	Not carcinogenic
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
Butanone	Inhalation	Human	Not carcinogenic
n-Hexane	Dermal	Mouse	Not carcinogenic
n-Hexane	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test result	Exposure Duration
Acetone	Ingestion	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
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
Salicylic acid	Ingestion	Toxic to development	Rat	NOAEL 75 mg/kg/day	during organogenesis
Butanone	Inhalation	Not classified for development	Rat	LOAEL 8.8 mg/l	during gestation

n-Hexane	Ingestion	Not classified for development	Mouse	NOAEL 2,200 mg/kg/day	during organogenesis
n-Hexane	Inhalation	Not classified for development	Rat	NOAEL 0.7 mg/l	during gestation
n-Hexane	Ingestion	Toxic to male reproduction	Rat	NOAEL 1,140 mg/kg/day	90 days
n-Hexane	Inhalation	Toxic to male reproduction	Rat	LOAEL 3.52 mg/l	28 days
Cyclohexane	Inhalation	Not classified for female reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for male reproduction	Rat	NOAEL 24 mg/l	2 generation
Cyclohexane	Inhalation	Not classified for development	Rat	NOAEL 6.9 mg/l	2 generation
Zinc oxide	Ingestion	Not classified for reproduction and/or development	Multiple animal species	NOAEL 125 mg/kg/day	prematuring & during gestation

**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
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
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	Not classified	Rat	NOAEL Not available	not applicable
Butanone	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 1,080 mg/kg	not applicable
n-Hexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
n-Hexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL Not available	8 hours
n-Hexane	Inhalation	respiratory system	Not classified	Rat	NOAEL 24.6 mg/l	8 hours

Cyclohexane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Cyclohexane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Cyclohexane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Heptane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Heptane	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Heptane	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	

**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
Resin acids and rosin acids, esters with glycerol	Ingestion	liver   heart   skin   endocrine system   bone, teeth, nails, and/or hair   blood   bone marrow   hematopoietic system   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	90 days
Toluene	Inhalation	auditory system   eyes   olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse

**3M™ Scotchkote™ Electrical Coating FD**

Toluene	Inhalation	nervous system	May cause damage to organs though 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   liver   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   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   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
Salicylic acid	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	3 days
Butanone	Dermal	nervous system	Not classified	Guinea pig	NOAEL Not available	31 weeks
Butanone	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
Butanone	Ingestion	liver	Not classified	Rat	NOAEL Not available	7 days
Butanone	Ingestion	nervous system	Not classified	Rat	NOAEL 173 mg/kg/day	90 days
n-Hexane	Inhalation	peripheral nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
n-Hexane	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.76 mg/l	13 weeks
n-Hexane	Inhalation	liver	Not classified	Rat	NOAEL Not available	6 months
n-Hexane	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.76 mg/l	6 months
n-Hexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 35.2 mg/l	13 weeks
n-Hexane	Inhalation	auditory system   immune system   eyes	Not classified	Human	NOAEL Not available	occupational exposure
n-Hexane	Inhalation	heart   skin   endocrine system	Not classified	Rat	NOAEL 1.76 mg/l	6 months

n-Hexane	Ingestion	peripheral nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,140 mg/kg/day	90 days
n-Hexane	Ingestion	endocrine system   hematopoietic system   liver   immune system   kidney and/or bladder	Not classified	Rat	NOAEL Not available	13 weeks
Cyclohexane	Inhalation	liver	Not classified	Rat	NOAEL 24 mg/l	90 days
Cyclohexane	Inhalation	auditory system	Not classified	Rat	NOAEL 1.7 mg/l	90 days
Cyclohexane	Inhalation	kidney and/or bladder	Not classified	Rabbit	NOAEL 2.7 mg/l	10 weeks
Cyclohexane	Inhalation	hematopoietic system	Not classified	Mouse	NOAEL 24 mg/l	14 weeks
Cyclohexane	Inhalation	peripheral nervous system	Not classified	Rat	NOAEL 8.6 mg/l	30 weeks
Zinc oxide	Ingestion	nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	10 days
Zinc oxide	Ingestion	endocrine system   hematopoietic system   kidney and/or bladder	Not classified	Other	NOAEL 500 mg/kg/day	6 months
Heptane	Inhalation	liver   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/l	26 weeks

**Aspiration Hazard**

Name	Value
Toluene	Aspiration hazard
n-Hexane	Aspiration hazard
Cyclohexane	Aspiration hazard
Heptane	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 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 2: Toxic to aquatic life.

**Chronic aquatic hazard:**

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Acetone	67-64-1	Algae other	Experimental	96 hours	EC50	11,493 mg/l
Acetone	67-64-1	Crustacea other	Experimental	24 hours	LC50	2,100 mg/l
Acetone	67-64-1	Rainbow trout	Experimental	96 hours	LC50	5,540 mg/l

**3M™ Scotchkote™ Electrical Coating FD**

Acetone	67-64-1	Water flea	Experimental	21 days	NOEC	1,000 mg/l
Acetone	67-64-1	Bacteria	Experimental	16 hours	NOEC	1,700 mg/l
Acetone	67-64-1	Redworm	Experimental	48 hours	LC50	>100
Acrylonitrile - butadiene polymer	9003-18-3		Data not available or insufficient for classification			N/A
Resin acids and rosin acids, esters with glycerol	8050-31-5	Green Algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Rainbow trout	Estimated	96 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Resin acids and rosin acids, esters with glycerol	8050-31-5	Green Algae	Estimated	72 hours	No tox obs at lmt of water sol	>100 mg/l
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1		Data not available or insufficient for classification			N/A
Salicylic acid	69-72-7	Green algae	Experimental	72 hours	EC50	>100 mg/l
Salicylic acid	69-72-7	Medaka	Experimental	96 hours	LC50	>100 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	48 hours	EC50	870 mg/l
Salicylic acid	69-72-7	Water flea	Experimental	21 days	NOEC	10 mg/l
Salicylic acid	69-72-7	Activated sludge	Experimental	3 hours	EC50	>3,200
Salicylic acid	69-72-7	Bacteria	Experimental	18 hours	EC10	465
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)
Zinc oxide	1314-13-2	Activated sludge	Estimated	3 hours	EC50	6.5 mg/l

Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	EC50	0.052 mg/l
Zinc oxide	1314-13-2	Rainbow trout	Estimated	96 hours	LC50	0.21 mg/l
Zinc oxide	1314-13-2	Water flea	Estimated	48 hours	EC50	0.07 mg/l
Zinc oxide	1314-13-2	Green Algae	Estimated	72 hours	NOEC	0.006 mg/l
Zinc oxide	1314-13-2	Water flea	Estimated	7 days	NOEC	0.02 mg/l
Cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
Cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
Cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
Butanone	78-93-3	Activated sludge	Experimental	12 hours	IC50	1,873 mg/l
Butanone	78-93-3	Bacteria	Experimental	16 hours	NOEC	1,150 mg/l
Butanone	78-93-3	Fathead minnow	Experimental	96 hours	LC50	2,993 mg/l
Butanone	78-93-3	Green algae	Experimental	96 hours	EC50	2,029 mg/l
Butanone	78-93-3	Water flea	Experimental	48 hours	EC50	308 mg/l
Butanone	78-93-3	Green Algae	Experimental	96 hours	EC10	1,289 mg/l
Butanone	78-93-3	Water flea	Experimental	21 days	NOEC	100 mg/l
n-Hexane	110-54-3	Fathead minnow	Experimental	96 hours	LC50	2.5 mg/l
n-Hexane	110-54-3	Water flea	Experimental	48 hours	LC50	3.9 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	24 hours	EC50	0.82 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Zebra Fish	Experimental	96 hours	LC50	>71 mg/l
Benzenamine, N-phenyl-, reaction products with 2,4,4-	68411-46-1	Green algae	Experimental	72 hours	NOEC	10 mg/l



trimethylpentene						
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	Water flea	Experimental	21 days	EC10	1.69 mg/l
Heptane	142-82-5	Water flea	Experimental	48 hours	EC50	1.5 mg/l
Heptane	142-82-5	Water flea	Estimated	21 days	NOEC	0.17 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental Photolysis		Photolytic half-life (in air)	147 days (t 1/2)	
Acetone	67-64-1	Experimental Biodegradation	28 days	BOD	78 % BOD/ThBOD	OECD 301D - Closed bottle test
Acrylonitrile - butadiene polymer	9003-18-3	Data not available-insufficient			N/A	
Resin acids and rosin acids, esters with glycerol	8050-31-5	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THC O2 evolution	
Salicylic acid	69-72-7	Experimental Biodegradation	14 days	BOD	88.1 % BOD/ThBOD	OECD 301C - MITI test (I)
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 % BOD/ThBOD	APHA Std Meth Water/Wastewater
Zinc oxide	1314-13-2	Data not available-insufficient			N/A	
Cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.14 days (t 1/2)	Non-standard method
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 % BOD/ThBOD	OECD 301F - Manometric respirometry
Butanone	78-93-3	Experimental Biodegradation	28 days	BOD	98 % BOD/ThBOD	OECD 301D - Closed bottle test
n-Hexane	110-54-3	Experimental Photolysis		Photolytic half-life (in air)	5.4 days (t 1/2)	Non-standard method
n-Hexane	110-54-3	Experimental Bioconcentration	28 days	BOD	100 % weight	OECD 301C - MITI test (I)
Benzenamine, N-phenyl-,	68411-46-1	Experimental Biodegradation	28 days	CO2 evolution	<=1 % weight	OECD 301B - Modified sturm or CO2

reaction products with 2,4,4-trimethylpentene						
Heptane	142-82-5	Experimental Photolysis		Photolytic half-life (in air)	4.24 days (t <sub>1/2</sub> )	Non-standard method
Heptane	142-82-5	Experimental Biodegradation	28 days	BOD	101 % BOD/ThBOD	OECD 301C - MITI test (I)

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acetone	67-64-1	Experimental BCF - Other		Bioaccumulation factor	0.65	
Acetone	67-64-1	Experimental Bioconcentration		Log Kow	-0.24	
Acrylonitrile - butadiene polymer	9003-18-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Resin acids and rosin acids, esters with glycerol	8050-31-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde, polymer with 4-(1,1-dimethylethyl) phenol	25085-50-1	Estimated Bioconcentration		Bioaccumulation factor	7.4	Non-standard method
Salicylic acid	69-72-7	Experimental Bioconcentration		Log Kow	2.26	
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
Zinc oxide	1314-13-2	Experimental BCF-Carp	56 days	Bioaccumulation factor	≤217	OECD 305E - Bioaccumulation flow-through fish test
Cyclohexane	110-82-7	Experimental BCF-Carp	56 days	Bioaccumulation factor	129	OECD 305E - Bioaccumulation flow-through fish test
Butanone	78-93-3	Experimental Bioconcentration		Log Kow	0.29	Non-standard method
n-Hexane	110-54-3	Estimated Bioconcentration		Bioaccumulation factor	50	Estimated: Bioconcentration factor
Benzenamine, N-phenyl-, reaction products with	68411-46-1	Estimated BCF-Carp	42 days	Bioaccumulation factor	1730	Non-standard method

2,4,4-trimethylpentene						
Heptane	142-82-5	Estimated Bioconcentration		Bioaccumulation factor	105	Estimated: Bioconcentration factor

**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**

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

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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 UN1866

Proper Shipping Name RESIN SOLUTION

Hazard Class/Division 3

Subsidiary Risk Not applicable

Packing Group: II

**Marine Transport (IMDG)**

UN No UN1866

Proper Shipping Name RESIN SOLUTION

Hazard Class/Division 3

Subsidiary Risk Not applicable

Packing Group: II

Environmental Hazards: 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 material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The

components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

**Applicable Environmental, Health and Safety Regulations**

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989  
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008  
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

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  
Acetone  
Cyclohexane  
n-Hexane  
Hexane, all isomers  
Butanone  
Toluene

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:

The product is classified as Very Highly Flammable liquid as per MSIHC Rules, 1989.

**SECTION 16: Other information****NFPA Hazard Classification**

**Health:** 2    **Flammability:** 3    **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:**

Section 14: Packing group (IMO) information was added.  
Company Telephone information was modified.  
Section 1: Emergency telephone information was modified.  
Section 1: Product identification numbers information was deleted.  
Section 1: Product name information was modified.  
Label: GHS Classification information was modified.  
Label: GHS Environmental Hazard Statements information was modified.  
Label: GHS Precautionary - Prevention information was modified.  
Label: GHS Precautionary - Response information was modified.  
Label: GHS Target Organ Hazard Statement information was added.  
Label: Graphic information was modified.  
Label: Symbol information was modified.  
Section 2: Ingredient table information was modified.  
Section 4: First Aid - notes to physician (REACH/GHS) information was modified.  
Section 04: First Aid - Symptoms and Effects (GHS) information was added.  
Section 04: Information on toxicological effects information was deleted.  
Section 5: Fire - Advice for fire fighters information information was modified.  
Section 6: Accidental release clean-up information information was modified.  
Section 7: Conditions safe storage information was modified.  
Section 7: Precautions safe handling information was modified.  
Section 8: Appropriate Engineering controls information information was modified.  
Section 8: Occupational exposure limit table information was modified.

Section 8: Skin protection - recommended gloves information information was modified.  
Section 9: All Properties information was added.  
Section 9: All Properties information was deleted.  
Section 09: Color information was added.  
Section 09: Nanoparticle information was added.  
Section 09: Odor information was added.  
Sections 3 and 9: Odour, colour, grade information information was deleted.  
Section 09: Percent Volatile information was added.  
Section 9: Property description for optional properties information was added.  
Section 9: Property description for optional properties information was deleted.  
Section 09: Vapor Density Value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 09: Viscosity information was added.  
Section 09: VOC Less H2O & Exempt Solvents information was added.  
Section 09: Volatile Organic Compounds information was added.  
Section 11: Acute Toxicity table information was modified.  
Section 11: Aspiration Hazard Table information was added.  
Section 11: Aspiration Hazard text information was deleted.  
Section 11: Carcinogenicity Table information was modified.  
Section 11: Germ Cell Mutagenicity Table information was modified.  
Section 11: Health Effects - Skin information information was modified.  
Section 11: Prolonged or repeated exposure may cause standard phrases information was added.  
Section 11: Reproductive Toxicity Table information was modified.  
Section 11: Serious Eye Damage/Irritation Table information was modified.  
Section 11: Skin Corrosion/Irritation Table information was modified.  
Section 11: Skin Sensitization Table information was modified.  
Section 11: Target Organs - Repeated Table information was modified.  
Section 11: Target Organs - Single Table information was modified.  
Section 12: Chronic aquatic hazard information information was modified.  
Section 12: Component ecotoxicity information information was modified.  
Section 12: Persistence and Degradability information information was modified.  
Section 12: Biocumulative potential information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 13: Standard Phrase Category Waste GHS information was modified.  
Section 14: Environmental hazards information was added.  
Section 14: IMO Subsidiary Risk information was added.  
Section 14: IMO transport hazard classes information was added.  
Section 14: Proper Shipping Name (IMO) information was added.  
Section 14: UN Number (IMO) information was added.  
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.  
Section 15: MSIHC Ingredients information was modified.  
Section 15: MSIHC Part I of Schedule I ingredients information was modified.  
Section 15: Regulations - Inventories information was modified.  
Section 16: UK disclaimer information was deleted.

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>**