



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

|                        |            |                         |            |
|------------------------|------------|-------------------------|------------|
| <b>Document group:</b> | 10-2460-3  | <b>Version number:</b>  | 3.01       |
| <b>Issue Date:</b>     | 07/07/2026 | <b>Supersedes date:</b> | 13/03/2025 |

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Fuel Resistant Coating EC-776

#### Product Identification Numbers

LC-B100-1065-4      62-0776-5530-6      62-0776-6530-5      62-0776-8530-3

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

##### Recommended use

Fuel Resistant coating

#### 1.3. Supplier's details

**Address:** 3M Technologies (S) Pte Ltd, 10 Ang Mo Kio Street 65, Singapore 569059  
**Telephone:** +65 6450 8888  
**Website:** [www.3m.com.sg](http://www.3m.com.sg)

#### 1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

### SECTION 2: Hazard identification

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

Flammable Liquid: Category 2.  
Acute Toxicity (inhalation): Category 4.  
Skin Corrosion/Irritation: Category 1.  
Serious Eye Damage/Irritation: Category 1.  
Skin Sensitizer: Category 1.  
Carcinogenicity: Category 1A.  
Reproductive Toxicity: Category 1B.  
Specific Target Organ Toxicity (single exposure): Category 2.  
Specific Target Organ Toxicity (repeated exposure): Category 2.  
Specific Target Organ Toxicity (single exposure): Category 3.

#### 2.2. Label elements

##### SIGNAL WORD

DANGER!

**Symbols**

Flame | Corrosion | Exclamation mark | Health Hazard |

**Pictograms****HAZARD STATEMENTS**

|      |                                                                                                                                                                               |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| H225 | Highly flammable liquid and vapour.                                                                                                                                           |
| H332 | Harmful if inhaled.                                                                                                                                                           |
| H314 | Causes severe skin burns and eye damage.                                                                                                                                      |
| H317 | May cause an allergic skin reaction.                                                                                                                                          |
| H350 | May cause cancer.                                                                                                                                                             |
| H360 | May damage fertility or the unborn child.                                                                                                                                     |
| H336 | May cause drowsiness or dizziness.                                                                                                                                            |
| H371 | May cause damage to organs: blood or blood-forming organs   cardiovascular system   kidney/urinary tract   nervous system   respiratory system.                               |
| H373 | May cause damage to organs through prolonged or repeated exposure: blood or blood-forming organs   cardiovascular system   kidney/urinary tract   liver   respiratory system. |

**PRECAUTIONARY STATEMENTS****Prevention:**

|       |                                                                                                                                          |
|-------|------------------------------------------------------------------------------------------------------------------------------------------|
| P201  | Obtain special instructions before use.                                                                                                  |
| P210  | 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.                                                                                         |
| P280J | Wear protective gloves, protective clothing, eye protection, face protection, and if needed, respiratory protection (see SDS Section 8). |

**Response:**

|                    |                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.                           |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310               | Immediately call a POISON CENTER or doctor.                                                                                      |
| P333 + P313        | If skin irritation or rash occurs: Get medical attention.                                                                        |
| P370 + P378        | In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.  |

**2.3. Other hazards**

- May cause chemical gastrointestinal burns.

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

This material is a mixture.

| Ingredient | CAS Nbr | % by Wt |
|------------|---------|---------|
|------------|---------|---------|

|                                 |           |         |
|---------------------------------|-----------|---------|
| Methyl Isobutyl Ketone          | 108-10-1  | 30 - 60 |
| Acrylonitrile-Butadiene Polymer | 9003-18-3 | 10 - 15 |
| Phenolic Resin                  | 9039-25-2 | 10 - 15 |
| Butanone                        | 78-93-3   | 5 - 10  |
| Ethanol                         | 64-17-5   | 3 - 7   |
| Phenol                          | 108-95-2  | 1 - 5   |
| Methanol                        | 67-56-1   | 0.1 - 1 |
| Cyclohexane                     | 110-82-7  | <= 0.99 |
| Toluene                         | 108-88-3  | <= 0.99 |
| Formaldehyde                    | 50-00-0   | < 0.3   |
| 2,5-Di-tert-pentylhydroquinone  | 79-74-3   | < 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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

#### Eye contact

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

#### If swallowed

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. 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

Hydrocarbons.

Formaldehyde

Carbon monoxide.

Carbon dioxide.

#### Condition

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. 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. 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 that is resistant to polar solvents. 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 detergent and water. 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**

For industrial/occupational use only. Not for consumer sale or use. 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. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. 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 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>                                     |
|------------------------|----------------|----------------|---------------------------------------------------------------------|----------------------------------------------------------------|
| Methyl Isobutyl Ketone | 108-10-1       | ACGIH          | TWA:20 ppm;STEL:75 ppm                                              | A3: Confirmed animal carcin.                                   |
| Methyl Isobutyl Ketone | 108-10-1       | Singapore PELs | TWA(8 hours):205 mg/m3(50 ppm);STEL(15 minutes):307 mg/m3(75 ppm)   |                                                                |
| Toluene                | 108-88-3       | ACGIH          | TWA:20 ppm                                                          | A4: Not class. as human carcin, Ototoxicant                    |
| Toluene                | 108-88-3       | Singapore PELs | TWA(8 hours):188 mg/m3(50 ppm)                                      |                                                                |
| Phenol                 | 108-95-2       | ACGIH          | TWA:5 ppm                                                           | A4: Not class. as human carcin, Danger of cutaneous absorption |
| Phenol                 | 108-95-2       | Singapore PELs | TWA(8 hours):19 mg/m3(5 ppm)                                        |                                                                |
| Cyclohexane            | 110-82-7       | ACGIH          | TWA:100 ppm                                                         |                                                                |
| Cyclohexane            | 110-82-7       | Singapore PELs | TWA(8 hours):1030 mg/m3(300 ppm)                                    |                                                                |
| Formaldehyde           | 50-00-0        | ACGIH          | TWA:0.1 ppm;STEL:0.3 ppm                                            | A1: Confirmed human carcin., Dermal/Respiratory Sensitizer     |
| Formaldehyde           | 50-00-0        | Singapore PELs | STEL(15 minutes):0.37 mg/m3(0.3 ppm)                                |                                                                |
| Ethanol                | 64-17-5        | ACGIH          | STEL:1000 ppm                                                       | A3: Confirmed animal carcin.                                   |
| Ethanol                | 64-17-5        | Singapore PELs | TWA(8 hours):1880 mg/m3(1000 ppm)                                   |                                                                |
| Methanol               | 67-56-1        | ACGIH          | TWA:200 ppm;STEL:250 ppm                                            | Danger of cutaneous absorption                                 |
| Methanol               | 67-56-1        | Singapore PELs | TWA(8 hours):262 mg/m3(200 ppm);STEL(15 minutes):328 mg/m3(250 ppm) |                                                                |
| Butanone               | 78-93-3        | ACGIH          | TWA:75 ppm;STEL:150 ppm                                             | Danger of cutaneous absorption                                 |
| Butanone               | 78-93-3        | Singapore PELs | TWA(8 hours):590 mg/m3(200 ppm);STEL(15 minutes):885 mg/m3(300 ppm) |                                                                |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

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:

Full face shield.

Indirect vented goggles.

### Skin/hand protection

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

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

### 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 formaldehyde

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

Half facepiece or full facepiece supplied-air respirator

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                                                          |                                                            |
|----------------------------------------------------------|------------------------------------------------------------|
| <b>Physical state</b>                                    | Liquid.                                                    |
| <b>Color</b>                                             | Yellow                                                     |
| <b>Odor</b>                                              | Mild Solvent                                               |
| <b>Odour threshold</b>                                   | No data available.                                         |
| <b>pH</b>                                                | No data available.                                         |
| <b>Melting point/Freezing point</b>                      | No data available.                                         |
| <b>Boiling point/Initial boiling point/Boiling range</b> | 79.4 °C [ @ 101,325 Pa ] [ <i>Test Method</i> :Estimated]  |
| <b>Flash point</b>                                       | 10 °C [ @ 101,325 Pa ] [ <i>Test Method</i> :Closed Cup]   |
| <b>Evaporation rate</b>                                  | 2.7 [ <i>Ref Std</i> :ETHER=1]                             |
| <b>Flammability</b>                                      | Flammable Liquid: Category 2.                              |
| <b>Flammable Limits(LEL)</b>                             | 1.8 % volume [ @ 20 °C ] [ <i>Test Method</i> :Estimated]  |
| <b>Flammable Limits(UEL)</b>                             | 11.5 % volume [ @ 20 °C ] [ <i>Test Method</i> :Estimated] |
| <b>Vapour pressure</b>                                   | 80 mm Hg [ @ 20 °C ] [ <i>Test Method</i> :Estimated]      |
| <b>Relative Vapor Density</b>                            | 2.5 [ <i>Ref Std</i> :AIR=1]                               |
| <b>Density</b>                                           | 0.899 g/ml [ @ 20 °C ]                                     |
| <b>Relative density</b>                                  | 0.899 [ <i>Ref Std</i> :WATER=1]                           |

|                                             |                                                      |
|---------------------------------------------|------------------------------------------------------|
| Water solubility                            | Moderate                                             |
| Solubility- non-water                       | No data available.                                   |
| Partition coefficient: n-octanol/water      | No data available.                                   |
| Autoignition temperature                    | 448.9 °C [Test Method: Estimated]                    |
| Decomposition temperature                   | No data available.                                   |
| Kinematic Viscosity                         | 1,557 mm <sup>2</sup> /sec                           |
| Volatile organic compounds (VOC)            | ≤690 g/l [Test Method: calculated SCAQMD rule 443.1] |
| Percent volatile                            | ≤77 %                                                |
| VOC less H <sub>2</sub> O & exempt solvents | ≤695 g/l [Test Method: calculated SCAQMD rule 443.1] |
| Molecular weight                            | No data available.                                   |

|                          |                 |
|--------------------------|-----------------|
| Particle Characteristics | Not applicable. |
|--------------------------|-----------------|

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is considered to be non reactive under normal use conditions

### 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

Strong acids.

Strong oxidising agents.

### 10.6 Hazardous decomposition products

#### Substance

None known.

#### Condition

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

Harmful if inhaled. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction in sensitive people: Signs/symptoms may include

difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

#### **Skin contact**

Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching. May cause additional health effects (see below).

#### **Eye contact**

Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

#### **Ingestion**

May be harmful if swallowed.

Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen. May cause additional health effects (see below).

#### **Additional Health Effects:**

##### **Single exposure may cause target organ effects:**

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. 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. 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. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

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

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. 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. 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. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

#### **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.

#### **Additional information:**

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

## 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 >10 - =20 mg/l        |
| Overall product                 | Ingestion                  |         | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| 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                                        |
| Phenolic Resin                  | Dermal                     |         | LD50 estimated to be > 5,000 mg/kg                      |
| Phenolic Resin                  | Inhalation-Dust/Mist       |         | LC50 estimated to be > 12.5 mg/l                        |
| Phenolic Resin                  | Ingestion                  |         | LD50 estimated to be > 5,000 mg/kg                      |
| Acrylonitrile-Butadiene Polymer | Dermal                     | Rabbit  | LD50 > 15,000 mg/kg                                     |
| Acrylonitrile-Butadiene Polymer | Ingestion                  | Rat     | LD50 > 30,000 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                                        |
| Ethanol                         | Dermal                     | Rabbit  | LD50 > 15,800 mg/kg                                     |
| Ethanol                         | Inhalation-Vapor (4 hours) | Rat     | LC50 124.7 mg/l                                         |
| Ethanol                         | Ingestion                  | Rat     | LD50 17,800 mg/kg                                       |
| Phenol                          | Inhalation-Vapor           |         | LC50 estimated to be 2 - 10 mg/l                        |
| Phenol                          | Ingestion                  | Human   | LD50 > 140 mg/kg                                        |
| Phenol                          | Dermal                     | Rat     | LD50 670 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                                        |
| 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                                        |
| Methanol                        | Dermal                     |         | LD50 estimated to be 1,000 - 2,000 mg/kg                |
| Methanol                        | Inhalation-Vapor           |         | LC50 estimated to be 10 - 20 mg/l                       |
| Methanol                        | Ingestion                  |         | LD50 estimated to be 50 - 300 mg/kg                     |
| Formaldehyde                    | Dermal                     | Rabbit  | LD50 270 mg/kg                                          |
| Formaldehyde                    | Inhalation-Gas (4 hours)   | Rat     | LC50 479 ppm                                            |
| Formaldehyde                    | Ingestion                  | Rat     | LD50 640 mg/kg                                          |
| 2,5-Di-tert-pentylhydroquinone  | Dermal                     | Rabbit  | LD50 > 3,160 mg/kg                                      |
| 2,5-Di-tert-pentylhydroquinone  | Ingestion                  | Rat     | LD50 1,900 mg/kg                                        |

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

| Name                   | Species | Value         |
|------------------------|---------|---------------|
| Methyl Isobutyl Ketone | Rabbit  | Mild irritant |

|                                 |                         |                           |
|---------------------------------|-------------------------|---------------------------|
| Phenolic Resin                  | Professional judgement  | No significant irritation |
| Acrylonitrile-Butadiene Polymer | Professional judgement  | No significant irritation |
| Butanone                        | Rabbit                  | Minimal irritation        |
| Ethanol                         | Rabbit                  | No significant irritation |
| Phenol                          | Rat                     | Corrosive                 |
| Toluene                         | Rabbit                  | Irritant                  |
| Cyclohexane                     | Rabbit                  | Mild irritant             |
| Methanol                        | Rabbit                  | Mild irritant             |
| Formaldehyde                    | official classification | Corrosive                 |
| 2,5-Di-tert-pentylhydroquinone  | Rabbit                  | No significant irritation |

### Serious Eye Damage/Irritation

| Name                            | Species                 | Value                     |
|---------------------------------|-------------------------|---------------------------|
| Methyl Isobutyl Ketone          | Rabbit                  | Mild irritant             |
| Phenolic Resin                  | Professional judgement  | Mild irritant             |
| Acrylonitrile-Butadiene Polymer | Professional judgement  | No significant irritation |
| Butanone                        | Rabbit                  | Severe irritant           |
| Ethanol                         | Rabbit                  | Severe irritant           |
| Phenol                          | Rabbit                  | Corrosive                 |
| Toluene                         | Rabbit                  | Moderate irritant         |
| Cyclohexane                     | Rabbit                  | Mild irritant             |
| Methanol                        | Rabbit                  | Moderate irritant         |
| Formaldehyde                    | official classification | Corrosive                 |
| 2,5-Di-tert-pentylhydroquinone  | Rabbit                  | Mild irritant             |

### Sensitization:

#### Skin Sensitisation

| Name                           | Species    | Value          |
|--------------------------------|------------|----------------|
| Methyl Isobutyl Ketone         | Guinea pig | Not classified |
| Ethanol                        | Human      | Not classified |
| Phenol                         | Guinea pig | Not classified |
| Toluene                        | Guinea pig | Not classified |
| Methanol                       | Guinea pig | Not classified |
| Formaldehyde                   | Guinea pig | Sensitising    |
| 2,5-Di-tert-pentylhydroquinone | Mouse      | Sensitising    |

#### Respiratory Sensitisation

| Name         | Species | Value                                          |
|--------------|---------|------------------------------------------------|
| Formaldehyde | Human   | Some positive data exist, but the data are not |

|  |  |                               |
|--|--|-------------------------------|
|  |  | sufficient for classification |
|--|--|-------------------------------|

**Germ Cell Mutagenicity**

| Name                           | Route    | Value                                                                        |
|--------------------------------|----------|------------------------------------------------------------------------------|
| Methyl Isobutyl Ketone         | In Vitro | Not mutagenic                                                                |
| Butanone                       | In Vitro | Not mutagenic                                                                |
| Ethanol                        | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Ethanol                        | In vivo  | Some positive data exist, but the data are not sufficient for classification |
| Phenol                         | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Phenol                         | In vivo  | Some positive data exist, but the data are not sufficient for classification |
| Toluene                        | In Vitro | Not mutagenic                                                                |
| Toluene                        | In vivo  | Not mutagenic                                                                |
| Cyclohexane                    | In Vitro | Not mutagenic                                                                |
| Cyclohexane                    | In vivo  | Some positive data exist, but the data are not sufficient for classification |
| Methanol                       | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Methanol                       | In vivo  | Some positive data exist, but the data are not sufficient for classification |
| Formaldehyde                   | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Formaldehyde                   | In vivo  | Mutagenic                                                                    |
| 2,5-Di-tert-pentylhydroquinone | In vivo  | Not mutagenic                                                                |
| 2,5-Di-tert-pentylhydroquinone | In Vitro | Some positive data exist, but the data are not sufficient for classification |

**Carcinogenicity**

| Name                   | Route          | Species                 | Value                                                                        |
|------------------------|----------------|-------------------------|------------------------------------------------------------------------------|
| Methyl Isobutyl Ketone | Inhalation     | Multiple animal species | Carcinogenic.                                                                |
| Butanone               | Inhalation     | Human                   | Not carcinogenic                                                             |
| Ethanol                | Ingestion      | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Phenol                 | Dermal         | Mouse                   | Some positive data exist, but the data are not sufficient for classification |
| Phenol                 | Ingestion      | Rat                     | 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 |
| Methanol               | Inhalation     | Multiple animal species | Not carcinogenic                                                             |
| Formaldehyde           | Not specified. | Human and animal        | Carcinogenic.                                                                |

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

| Name                   | Route      | Value                                  | Species                 | Test result    | Exposure Duration |
|------------------------|------------|----------------------------------------|-------------------------|----------------|-------------------|
| 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         |
| Butanone                       | Inhalation | Not classified for development         | Rat                     | LOAEL 8.8 mg/l        | during gestation             |
| Ethanol                        | Inhalation | Not classified for development         | Rat                     | NOAEL 38 mg/l         | during gestation             |
| Ethanol                        | Ingestion  | Not classified for development         | Rat                     | NOAEL 5,200 mg/kg/day | premating & during gestation |
| Phenol                         | Ingestion  | Not classified for female reproduction | Rat                     | NOAEL 321 mg/kg/day   | 2 generation                 |
| Phenol                         | Ingestion  | Not classified for male reproduction   | Rat                     | NOAEL 321 mg/kg/day   | 2 generation                 |
| Phenol                         | Ingestion  | Not classified for development         | Rat                     | NOAEL 120 mg/kg/day   | 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       |
| 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                 |
| Methanol                       | Ingestion  | Not classified for male reproduction   | Rat                     | NOAEL 1,600 mg/kg/day | 21 days                      |
| Methanol                       | Ingestion  | Toxic to development                   | Mouse                   | LOAEL 4,000 mg/kg/day | during organogenesis         |
| Methanol                       | Inhalation | Toxic to development                   | Mouse                   | NOAEL 1.3 mg/l        | during organogenesis         |
| Formaldehyde                   | Ingestion  | Not classified for male reproduction   | Rat                     | NOAEL 100 mg/kg       | not applicable               |
| Formaldehyde                   | Inhalation | Not classified for development         | Rat                     | NOAEL 10 ppm          | during gestation             |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | Not classified for development         | Rat                     | NOAEL 70 mg/kg/day    | during organogenesis         |

## Target Organ(s)

### Specific Target Organ Toxicity - single exposure

| Name                   | Route      | Target Organ(s)                   | Value                                                                        | Species             | Test result         | Exposure Duration |
|------------------------|------------|-----------------------------------|------------------------------------------------------------------------------|---------------------|---------------------|-------------------|
| 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    |
| Butanone               | Inhalation | central nervous system depression | May cause drowsiness or dizziness                                            | official classifica | NOAEL Not available |                   |

|             |            |                                                |                                                                              |                         |                     |                        |
|-------------|------------|------------------------------------------------|------------------------------------------------------------------------------|-------------------------|---------------------|------------------------|
|             |            |                                                |                                                                              | tion                    |                     |                        |
| 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         |
| Ethanol     | Inhalation | respiratory irritation                         | Some positive data exist, but the data are not sufficient for classification | Human                   | LOAEL 9.4 mg/l      | not available          |
| Ethanol     | Inhalation | central nervous system depression              | Not classified                                                               | Human and animal        | NOAEL not available |                        |
| Ethanol     | Ingestion  | central nervous system depression              | Not classified                                                               | Multiple animal species | NOAEL not available |                        |
| Ethanol     | Ingestion  | kidney and/or bladder                          | Not classified                                                               | Dog                     | NOAEL 3,000 mg/kg   |                        |
| Phenol      | Dermal     | hematopoietic system                           | Causes damage to organs                                                      | Rat                     | LOAEL 108 mg/kg     | not available          |
| Phenol      | Dermal     | heart   nervous system   kidney and/or bladder | Causes damage to organs                                                      | Rat                     | LOAEL 107 mg/kg     | 24 hours               |
| Phenol      | Dermal     | liver                                          | Not classified                                                               | Human                   | NOAEL Not available | not available          |
| Phenol      | Inhalation | respiratory irritation                         | May cause respiratory irritation                                             | Multiple animal species | NOAEL Not available | not available          |
| Phenol      | Ingestion  | kidney and/or bladder                          | Causes damage to organs                                                      | Rat                     | NOAEL 120 mg/kg/day | not applicable         |
| Phenol      | Ingestion  | respiratory system                             | Causes damage to organs                                                      | Human                   | NOAEL not available | poisoning and/or abuse |
| Phenol      | Ingestion  | endocrine system   liver                       | Not classified                                                               | Rat                     | NOAEL 224 mg/kg     | not applicable         |
| Phenol      | Ingestion  | heart                                          | Not classified                                                               | 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 |
| 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 |                        |
| Methanol    | Inhalation | blindness                                      | Causes damage to organs                                                      | Human                   | NOAEL Not available | occupational exposure  |
| Methanol    | Inhalation | central nervous system depression              | May cause drowsiness or dizziness                                            | Human                   | NOAEL Not available | not available          |
| Methanol    | Inhalation | respiratory irritation                         | Some positive data exist, but the data are not sufficient for classification | Rat                     | NOAEL Not available | 6 hours                |
| Methanol    | Ingestion  | blindness                                      | Causes damage to organs                                                      | Human                   | NOAEL Not           | poisoning              |

|              |            |                                   |                                   |       |                     |                        |
|--------------|------------|-----------------------------------|-----------------------------------|-------|---------------------|------------------------|
|              |            |                                   |                                   |       | available           | and/or abuse           |
| Methanol     | Ingestion  | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Formaldehyde | Inhalation | respiratory system                | Causes damage to organs           | Rat   | LOAEL 128 ppm       | 6 hours                |
| Formaldehyde | Inhalation | respiratory irritation            | May cause respiratory irritation  | Human | NOAEL Not available |                        |

**Specific Target Organ Toxicity - repeated exposure**

| Name                   | Route      | Target Organ(s)       | Value          | Species                 | Test result           | Exposure Duration |
|------------------------|------------|-----------------------|----------------|-------------------------|-----------------------|-------------------|
| 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 mg/kg/day | 13 weeks          |
| 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          |
| Butanone               | Dermal     | nervous system        | Not classified | Guinea pig              | NOAEL Not available   | 31 weeks          |
| Butanone               | Inhalation | liver                 | Not classified | Rat                     | NOAEL 14.7 mg/l       | 90 days           |
| Butanone               | Inhalation | kidney and/or bladder | Not classified | Rat                     | NOAEL 14.7 mg/l       | 90 days           |
| Butanone               | Inhalation | heart                 | Not classified | Rat                     | NOAEL 14.7 mg/l       | 90 days           |
| Butanone               | Inhalation | endocrine system      | Not classified | Rat                     | NOAEL 14.7            | 90 days           |

|          |            |                                 |                                                                              |                         | mg/l                  |                       |
|----------|------------|---------------------------------|------------------------------------------------------------------------------|-------------------------|-----------------------|-----------------------|
| Butanone | Inhalation | gastrointestinal tract          | Not classified                                                               | Rat                     | NOAEL 14.7 mg/l       | 90 days               |
| Butanone | Inhalation | bone, teeth, nails, and/or hair | Not classified                                                               | Rat                     | NOAEL 14.7 mg/l       | 90 days               |
| Butanone | Inhalation | hematopoietic system            | Not classified                                                               | Rat                     | NOAEL 14.7 mg/l       | 90 days               |
| Butanone | Inhalation | immune system                   | Not classified                                                               | Rat                     | NOAEL 14.7 mg/l       | 90 days               |
| Butanone | Inhalation | 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               |
| Ethanol  | Inhalation | liver                           | Some positive data exist, but the data are not sufficient for classification | Rabbit                  | LOAEL 124 mg/l        | 365 days              |
| Ethanol  | Inhalation | hematopoietic system            | Not classified                                                               | Rat                     | NOAEL 25 mg/l         | 14 days               |
| Ethanol  | Inhalation | immune system                   | Not classified                                                               | Rat                     | NOAEL 25 mg/l         | 14 days               |
| Ethanol  | Ingestion  | liver                           | Some positive data exist, but the data are not sufficient for classification | Rat                     | LOAEL 8,000 mg/kg/day | 4 months              |
| Ethanol  | Ingestion  | kidney and/or bladder           | Not classified                                                               | Dog                     | NOAEL 3,000 mg/kg/day | 7 days                |
| Phenol   | Dermal     | nervous system                  | May cause damage to organs though prolonged or repeated exposure             | Rabbit                  | LOAEL 260 mg/kg/day   | 18 days               |
| Phenol   | Inhalation | heart                           | Causes damage to organs through prolonged or repeated exposure               | Guinea pig              | LOAEL 0.1 mg/l        | 41 days               |
| Phenol   | Inhalation | liver                           | Causes damage to organs through prolonged or repeated exposure               | Guinea pig              | LOAEL 0.1 mg/l        | 41 days               |
| Phenol   | Inhalation | kidney and/or bladder           | Causes damage to organs through prolonged or repeated exposure               | Guinea pig              | LOAEL 0.1 mg/l        | 41 days               |
| Phenol   | Inhalation | respiratory system              | Causes damage to organs through prolonged or repeated exposure               | Guinea pig              | LOAEL 0.1 mg/l        | 41 days               |
| Phenol   | Inhalation | nervous system                  | May cause damage to organs though prolonged or repeated exposure             | Multiple animal species | LOAEL 0.1 mg/l        | 14 days               |
| Phenol   | Inhalation | hematopoietic system            | Not classified                                                               | Human                   | NOAEL Not available   | occupational exposure |
| Phenol   | Inhalation | immune system                   | Not classified                                                               | Rat                     | NOAEL 0.1 mg/l        | 2 weeks               |
| Phenol   | Ingestion  | kidney and/or bladder           | Causes damage to organs through prolonged or repeated exposure               | Rat                     | NOAEL 12 mg/kg/day    | 14 days               |
| Phenol   | Ingestion  | hematopoietic system            | Causes damage to organs through prolonged or repeated exposure               | Mouse                   | LOAEL 1.8 mg/kg/day   | 28 days               |
| Phenol   | Ingestion  | nervous system                  | May cause damage to organs though prolonged or repeated exposure             | Rat                     | LOAEL 308 mg/kg/day   | 13 weeks              |
| Phenol   | Ingestion  | liver                           | Not classified                                                               | Rat                     | NOAEL 40 mg/kg/day    | 14 days               |
| Phenol   | Ingestion  | respiratory system              | Not classified                                                               | Rat                     | LOAEL 40 mg/kg/day    | 14 days               |
| Phenol   | Ingestion  | immune system                   | Not classified                                                               | Mouse                   | NOAEL 1.8 mg/kg/day   | 28 days               |
| Phenol   | Ingestion  | endocrine system                | Not classified                                                               | Rat                     | NOAEL 120 mg/kg/day   | 14 days               |
| Phenol   | Ingestion  | skin                            | Not classified                                                               | Multiple animal species | NOAEL 1,204 mg/kg/day | 103 weeks             |
| Phenol   | Ingestion  | bone, teeth, nails, and/or hair | Not classified                                                               | Multiple animal species | NOAEL 1,204 mg/kg/day | 103 weeks             |

|             |            |                                 |                                                                              |                         |                       |                        |
|-------------|------------|---------------------------------|------------------------------------------------------------------------------|-------------------------|-----------------------|------------------------|
| 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 mg/l       | 15 weeks               |
| 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                |
| 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               |
| Methanol    | Inhalation | liver                           | Not classified                                                               | Rat                     | NOAEL 6.55 mg/l       | 4 weeks                |
| Methanol    | Inhalation | respiratory system              | Not classified                                                               | Rat                     | NOAEL 13.1 mg/l       | 6 weeks                |
| Methanol    | Ingestion  | liver                           | Not classified                                                               | Rat                     | NOAEL 2,500 mg/kg/day | 90 days                |
| Methanol    | Ingestion  | nervous system                  | Not classified                                                               | Rat                     | NOAEL 2,500           | 90 days                |

|                                |            |                                 |                                                                |       | mg/kg/day           |           |
|--------------------------------|------------|---------------------------------|----------------------------------------------------------------|-------|---------------------|-----------|
| Formaldehyde                   | Dermal     | respiratory system              | Not classified                                                 | Mouse | NOAEL 80 mg/kg/day  | 60 weeks  |
| Formaldehyde                   | Inhalation | respiratory system              | Causes damage to organs through prolonged or repeated exposure | Rat   | NOAEL 0.3 ppm       | 28 months |
| Formaldehyde                   | Inhalation | liver                           | Not classified                                                 | Rat   | NOAEL 20 ppm        | 13 weeks  |
| Formaldehyde                   | Inhalation | hematopoietic system            | Not classified                                                 | Mouse | NOAEL 15 ppm        | 3 weeks   |
| Formaldehyde                   | Inhalation | nervous system                  | Not classified                                                 | Mouse | NOAEL 10 ppm        | 13 weeks  |
| Formaldehyde                   | Inhalation | endocrine system                | Not classified                                                 | Rat   | NOAEL 15 ppm        | 28 months |
| Formaldehyde                   | Inhalation | immune system                   | Not classified                                                 | Rat   | NOAEL 15 ppm        | 28 months |
| Formaldehyde                   | Inhalation | muscles                         | Not classified                                                 | Rat   | NOAEL 15 ppm        | 28 months |
| Formaldehyde                   | Inhalation | kidney and/or bladder           | Not classified                                                 | Rat   | NOAEL 15 ppm        | 28 months |
| Formaldehyde                   | Inhalation | gastrointestinal tract          | Not classified                                                 | Rat   | NOAEL 15 ppm        | 2 years   |
| Formaldehyde                   | Inhalation | eyes                            | Not classified                                                 | Rat   | NOAEL 14.3 ppm      | 2 years   |
| Formaldehyde                   | Inhalation | vascular system                 | Not classified                                                 | Rat   | NOAEL 14.3 ppm      | 2 years   |
| Formaldehyde                   | Inhalation | heart                           | Not classified                                                 | Mouse | NOAEL 14.3 ppm      | 2 years   |
| Formaldehyde                   | Ingestion  | liver                           | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | immune system                   | Not classified                                                 | Rat   | NOAEL 20 mg/kg/day  | 4 weeks   |
| Formaldehyde                   | Ingestion  | kidney and/or bladder           | Not classified                                                 | Rat   | NOAEL 15 mg/kg/day  | 24 months |
| Formaldehyde                   | Ingestion  | nervous system                  | Not classified                                                 | Rat   | NOAEL 109 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | heart                           | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | endocrine system                | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | hematopoietic system            | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | respiratory system              | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | vascular system                 | Not classified                                                 | Rat   | NOAEL 300 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | skin                            | Not classified                                                 | Rat   | NOAEL 109 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | muscles                         | Not classified                                                 | Rat   | NOAEL 109 mg/kg/day | 2 years   |
| Formaldehyde                   | Ingestion  | eyes                            | Not classified                                                 | Rat   | NOAEL 109 mg/kg/day | 2 years   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | endocrine system                | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | gastrointestinal tract          | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | liver                           | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | kidney and/or bladder           | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | heart                           | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | skin                            | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | bone, teeth, nails, and/or hair | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |
| 2,5-Di-tert-pentylhydroquinone | Ingestion  | hematopoietic system            | Not classified                                                 | Rat   | NOAEL 150 mg/kg/day | 90 days   |

|                                |           |                    |                |     |                     |         |
|--------------------------------|-----------|--------------------|----------------|-----|---------------------|---------|
| 2,5-Di-tert-pentylhydroquinone | Ingestion | immune system      | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |
| 2,5-Di-tert-pentylhydroquinone | Ingestion | nervous system     | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |
| 2,5-Di-tert-pentylhydroquinone | Ingestion | eyes               | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |
| 2,5-Di-tert-pentylhydroquinone | Ingestion | respiratory system | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |
| 2,5-Di-tert-pentylhydroquinone | Ingestion | vascular system    | Not classified | Rat | NOAEL 150 mg/kg/day | 90 days |

### Aspiration Hazard

| Name                   | Value                                                                        |
|------------------------|------------------------------------------------------------------------------|
| Methyl Isobutyl Ketone | Some positive data exist, but the data are not sufficient for classification |
| Toluene                | Aspiration hazard                                                            |
| Cyclohexane            | 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 3: Harmful to aquatic life.

#### Chronic aquatic hazard:

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

No product test data available.

| Material                        | CAS Nbr   | Organism         | Type                                                  | Exposure   | Test endpoint | Test result |
|---------------------------------|-----------|------------------|-------------------------------------------------------|------------|---------------|-------------|
| 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      |
| Acrylonitrile-Butadiene Polymer | 9003-18-3 | N/A              | Data not available or insufficient for classification | N/A        | N/A           | N/A         |
| Phenolic Resin                  | 9039-25-2 | N/A              | Data not available or insufficient for classification | N/A        | N/A           | N/A         |
| Butanone                        | 78-93-3   | Fathead minnow   | Experimental                                          | 96 hours   | LC50          | 2,993 mg/l  |
| Butanone                        | 78-93-3   | Green algae      | Experimental                                          | 96 hours   | ErC50         | 2,029 mg/l  |
| Butanone                        | 78-93-3   | Water flea       | Experimental                                          | 48 hours   | EC50          | 308 mg/l    |

**3M™ Scotch-Weld™ Fuel Resistant Coating EC-776**

|                                |          |                               |              |           |       |                              |
|--------------------------------|----------|-------------------------------|--------------|-----------|-------|------------------------------|
| Butanone                       | 78-93-3  | Green algae                   | Experimental | 96 hours  | ErC10 | 1,289 mg/l                   |
| Butanone                       | 78-93-3  | Water flea                    | Experimental | 21 days   | NOEC  | 100 mg/l                     |
| Butanone                       | 78-93-3  | Bacteria                      | Experimental | 16 hours  | LOEC  | 1,150 mg/l                   |
| Ethanol                        | 64-17-5  | Fathead minnow                | Experimental | 96 hours  | LC50  | 14,200 mg/l                  |
| Ethanol                        | 64-17-5  | Fish                          | Experimental | 96 hours  | LC50  | 11,000 mg/l                  |
| Ethanol                        | 64-17-5  | Green algae                   | Experimental | 72 hours  | EC50  | 275 mg/l                     |
| Ethanol                        | 64-17-5  | Water flea                    | Experimental | 48 hours  | LC50  | 5,012 mg/l                   |
| Ethanol                        | 64-17-5  | Green algae                   | Experimental | 72 hours  | ErC10 | 11.5 mg/l                    |
| Ethanol                        | 64-17-5  | Water flea                    | Experimental | 10 days   | NOEC  | 9.6 mg/l                     |
| Phenol                         | 108-95-2 | Bacteria                      | Experimental | 24 hours  | IC50  | 21 mg/l                      |
| Phenol                         | 108-95-2 | Green algae                   | Experimental | 96 hours  | EC50  | 61.1 mg/l                    |
| Phenol                         | 108-95-2 | Rainbow trout                 | Experimental | 96 hours  | LC50  | 8.9 mg/l                     |
| Phenol                         | 108-95-2 | Water flea                    | Experimental | 48 hours  | EC50  | 3.1 mg/l                     |
| Phenol                         | 108-95-2 | Fish                          | Experimental | 60 days   | NOEC  | 0.077 mg/l                   |
| Phenol                         | 108-95-2 | Water flea                    | Experimental | 16 days   | NOEC  | 0.16 mg/l                    |
| Methanol                       | 67-56-1  | Algae or other aquatic plants | Experimental | 96 hours  | EC50  | 16.9 mg/l                    |
| Methanol                       | 67-56-1  | Bay mussel                    | Experimental | 96 hours  | LC50  | 15,900 mg/l                  |
| Methanol                       | 67-56-1  | Bluegill                      | Experimental | 96 hours  | LC50  | 15,400 mg/l                  |
| Methanol                       | 67-56-1  | Green algae                   | Experimental | 96 hours  | ErC50 | 22,000 mg/l                  |
| Methanol                       | 67-56-1  | Sediment organism             | Experimental | 96 hours  | LC50  | 54,890 mg/l                  |
| Methanol                       | 67-56-1  | Water flea                    | Experimental | 48 hours  | LC50  | 3,289 mg/l                   |
| Methanol                       | 67-56-1  | Green algae                   | Experimental | 96 hours  | NOEC  | 9.96 mg/l                    |
| Methanol                       | 67-56-1  | Medaka                        | Experimental | 8.33 days | NOEC  | 158,000 mg/l                 |
| Methanol                       | 67-56-1  | Water flea                    | Experimental | 21 days   | NOEC  | 122 mg/l                     |
| Methanol                       | 67-56-1  | Activated sludge              | Experimental | 3 hours   | IC50  | >1,000 mg/l                  |
| Methanol                       | 67-56-1  | Barley                        | Experimental | 14 days   | EC50  | 15,492 mg/kg (Dry Weight)    |
| Methanol                       | 67-56-1  | Redworm                       | Experimental | 63 days   | EC50  | 26,646 mg/kg (Dry Weight)    |
| Methanol                       | 67-56-1  | Springtail                    | Experimental | 28 days   | EC50  | 5,683 mg/kg (Dry Weight)     |
| 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                     |
| Cyclohexane                    | 110-82-7 | Bacteria                      | Experimental | 24 hours  | IC50  | 97 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)       |
| Formaldehyde                   | 50-00-0  | Green algae                   | Experimental | 72 hours  | ErC50 | 4.89 mg/l                    |
| Formaldehyde                   | 50-00-0  | Striped bass                  | Experimental | 96 hours  | LC50  | 6.7 mg/l                     |
| Formaldehyde                   | 50-00-0  | Water flea                    | Experimental | 48 hours  | EC50  | 5.8 mg/l                     |
| Formaldehyde                   | 50-00-0  | Medaka                        | Experimental | 28 days   | NOEC  | >=48 mg/l                    |
| Formaldehyde                   | 50-00-0  | Water flea                    | Experimental | 21 days   | NOEC  | >=6.4 mg/l                   |
| Formaldehyde                   | 50-00-0  | Activated sludge              | Experimental | 3 hours   | EC50  | 19 mg/l                      |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3  | Bluegill                      | Experimental | 96 hours  | LC50  | 0.013 mg/l                   |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3  | Green algae                   | Experimental | 72 hours  | ErC50 | 0.246 mg/l                   |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3  | Water flea                    | Experimental | 48 hours  | LC50  | 0.91 mg/l                    |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3  | Fathead minnow                | Experimental | 28 days   | NOEC  | 0.0032 mg/l                  |

|                                |         |                  |              |          |      |                           |
|--------------------------------|---------|------------------|--------------|----------|------|---------------------------|
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Green algae      | Experimental | 72 hours | NOEC | 0.049 mg/l                |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Water flea       | Experimental | 21 days  | NOEC | 0.011 mg/l                |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Activated sludge | Experimental | 3 hours  | EC50 | >100 mg/l                 |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Onion            | Experimental | 21 days  | EC50 | 7.95 mg/kg (Dry Weight)   |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Redworm          | Experimental | 56 days  | NOEC | 1.7 mg/kg (Dry Weight)    |
| 2,5-Di-tert-pentylhydroquinone | 79-74-3 | Soil microbes    | Experimental | 28 days  | EC50 | >1,000 mg/kg (Dry Weight) |

## 12.2. Persistence and degradability

| Material                        | CAS Nbr   | Test type                                | Duration  | Study Type                     | Test result                         | Protocol                            |
|---------------------------------|-----------|------------------------------------------|-----------|--------------------------------|-------------------------------------|-------------------------------------|
| Methyl Isobutyl Ketone          | 108-10-1  | Experimental Biodegradation              | 28 days   | BOD                            | 83 %BOD/ThOD                        | OECD 301F - Manometric respirometry |
| Methyl Isobutyl Ketone          | 108-10-1  | Experimental Photolysis                  |           | Photolytic half-life (in air)  | 2.3 days (t 1/2)                    |                                     |
| Acrylonitrile-Butadiene Polymer | 9003-18-3 | Data not available-insufficient          | N/A       | N/A                            | N/A                                 | N/A                                 |
| Phenolic Resin                  | 9039-25-2 | Data not available-insufficient          | N/A       | N/A                            | N/A                                 | N/A                                 |
| Butanone                        | 78-93-3   | Experimental Biodegradation              | 28 days   | BOD                            | 98 %BOD/ThOD                        | OECD 301D - Closed bottle test      |
| Ethanol                         | 64-17-5   | Experimental Biodegradation              | 14 days   | BOD                            | 89 %BOD/ThOD                        | OECD 301C - MITI test (I)           |
| Phenol                          | 108-95-2  | Experimental Biodegradation              | 100 hours | BOD                            | 62 %BOD/ThOD                        | OECD 301C - MITI test (I)           |
| Methanol                        | 67-56-1   | Experimental Biodegradation              | 3 days    | Percent degraded               | 91 %degraded                        |                                     |
| Methanol                        | 67-56-1   | Experimental Biodegradation              | 14 days   | BOD                            | 92 %BOD/ThOD                        | OECD 301C - MITI test (I)           |
| Methanol                        | 67-56-1   | Experimental Photolysis                  |           | Photolytic half-life (in air)  | 35 days (t 1/2)                     |                                     |
| Methanol                        | 67-56-1   | Experimental Soil Metabolism Aerobic     | 5 days    | CO2 evolution                  | 53.4 %CO2 evolution/THCO2 evolution |                                     |
| Cyclohexane                     | 110-82-7  | Experimental Biodegradation              | 28 days   | BOD                            | 77 %BOD/ThOD                        | OECD 301F - Manometric respirometry |
| Cyclohexane                     | 110-82-7  | Experimental Photolysis                  |           | Photolytic half-life (in air)  | 4.3 days (t 1/2)                    |                                     |
| Toluene                         | 108-88-3  | Experimental Biodegradation              | 20 days   | BOD                            | 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)                    |                                     |
| Formaldehyde                    | 50-00-0   | Experimental Biodegradation              | 28 days   | Dissolv. Organic Carbon Deplet | 99 %removal of DOC                  | OECD 301A - DOC Die Away Test       |
| Formaldehyde                    | 50-00-0   | Experimental Biodegradation              | 160 days  | BOD                            | 99.5 %BOD/COD                       | OECD 303A - Simulated Aerobic       |
| 2,5-Di-tert-pentylhydroquinone  | 79-74-3   | Experimental Aquatic Inherent Biodegrad. | 38 days   | CO2 evolution                  | 1 %CO2 evolution/THCO2 evolution    | similar to OECD 301B                |
| 2,5-Di-tert-                    | 79-74-3   | Experimental                             |           | Half-life (t 1/2)              | 4 days (t 1/2)                      |                                     |

|                   |  |                |  |  |  |  |
|-------------------|--|----------------|--|--|--|--|
| pentyhydroquinone |  | Biodegradation |  |  |  |  |
|-------------------|--|----------------|--|--|--|--|

### 12.3 : Bioaccumulative potential

| Material                        | CAS Nbr   | Test type                                             | Duration | Study Type             | Test result | Protocol                      |
|---------------------------------|-----------|-------------------------------------------------------|----------|------------------------|-------------|-------------------------------|
| Methyl Isobutyl Ketone          | 108-10-1  | Experimental Bioconcentration                         |          | Log Kow                | 1.9         | OECD 117 log Kow HPLC method  |
| Acrylonitrile-Butadiene Polymer | 9003-18-3 | Data not available or insufficient for classification | N/A      | N/A                    | N/A         | N/A                           |
| Phenolic Resin                  | 9039-25-2 | Data not available or insufficient for classification | N/A      | N/A                    | N/A         | N/A                           |
| Butanone                        | 78-93-3   | Experimental Bioconcentration                         |          | Log Kow                | 0.3         | OECD 117 log Kow HPLC method  |
| Ethanol                         | 64-17-5   | Experimental Bioconcentration                         |          | Log Kow                | -0.35       |                               |
| Phenol                          | 108-95-2  | Experimental Bioconcentration                         |          | Log Kow                | 1.47        |                               |
| Methanol                        | 67-56-1   | Experimental BCF - Fish                               | 3 days   | Bioaccumulation factor | <4.5        |                               |
| Methanol                        | 67-56-1   | Experimental Bioconcentration                         |          | Log Kow                | -0.77       |                               |
| Cyclohexane                     | 110-82-7  | Experimental BCF - Fish                               | 56 days  | Bioaccumulation factor | 129         | OECD305-Bioconcentration      |
| Cyclohexane                     | 110-82-7  | Experimental Bioconcentration                         |          | Log Kow                | 3.44        |                               |
| Toluene                         | 108-88-3  | Experimental BCF - Other                              | 72 hours | Bioaccumulation factor | 90          |                               |
| Toluene                         | 108-88-3  | Experimental Bioconcentration                         |          | Log Kow                | 2.73        |                               |
| Formaldehyde                    | 50-00-0   | Experimental Bioconcentration                         |          | Log Kow                | 0.35        |                               |
| 2,5-Di-tert-pentyhydroquinone   | 79-74-3   | Modeled Bioconcentration                              |          | Bioaccumulation factor | 44          | Catalogic™                    |
| 2,5-Di-tert-pentyhydroquinone   | 79-74-3   | Experimental Bioconcentration                         |          | Log Kow                | 5.1         | EC A.23 Part. Coeff Slow-Stir |

### 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

### International Regulations

**UN No.:** UN1263

**UN Proper shipping name:** PAINTS

**Transportation Class (IMO):** 3-3 Flammable liquid

**Transportation Class (IATA):** 3-3 Flammable liquid

**Other Dangerous Goods Descriptions (IMO):** None assigned

**Other Dangerous Goods Descriptions (IATA):** None assigned

**Packing Group:** II

**Marine pollutant:** None assigned

## **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 Japan Chemical Substance Control Law. 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.

#### **This product may contain component(s) that are regulated by the following:**

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum and Flammable Materials) Regulations: This product is subject to the requirements in the Regulations  
Sewerage & Drainage Act and Sewerage and Drainage (Trade Effluent) Regulations: This product is subject to the requirements in the act/regulation.

Environmental Protection and Management (Hazardous Substances) Regulations: This product is subject to the requirements in the Regulations

## **SECTION 16: Other information**

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

**3M Singapore SDSs are available at [www.3m.com.sg](http://www.3m.com.sg)**