# Safety Data Sheet

Copyright,2018,3M Canada Company
All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

| | | | |
|---|---|---|---|
| **Document group:** | 19-6313-1 | **Version number:** | 9.00 |
| **Issue Date:** | 2018/10/02 | **Supercedes Date:** | 2017/07/13 |

This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

## SECTION 1: Identification

### 1.1. Product identifier
3M™ Adhesion Promoter 4298

**Product Identification Numbers**
70-0706-9842-1

### 1.2. Recommended use and restrictions on use

**Intended Use**
Automotive

**Specific Use**
Adhesion Promoter absorbed on a sponge for use with attachment tapes

**Restrictions on use**
Not applicable

### 1.3. Supplier's details

| | |
|---|---|
| **Company:** | 3M Canada Company |
| **Division:** | Automotive and Aerospace Solutions Division |
| **Address:** | 1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1 |
| **Telephone:** | (800) 364-3577 |
| **Website:** | www.3M.ca |

### 1.4. Emergency telephone number
Medical Emergency Telephone: (519) 451-2500, Ext. 2222; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

## SECTION 2: Hazard identification

### 2.1. Classification of the substance or mixture
Flammable Liquid: Category 2.
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.

Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Flame | Exclamation mark | Health Hazard |

**Pictograms**



**Hazard statements**
Highly flammable liquid and vapour.
Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May damage fertility or the unborn child. Suspected of causing cancer.
Causes damage to organs: sensory organs |

Causes damage to organs through prolonged or repeated exposure: nervous system |
May cause damage to organs through prolonged or repeated exposure: sensory organs |

**Precautionary statements**

**Prevention:**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Use explosion-proof electrical/ventilating/lighting equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Call a POISON CENTRE or doctor/physician. IF exposed or concerned: Get medical advice/attention. In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

**Storage:**
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**2.3. Other hazards**
None known.

2% of the mixture consists of ingredients of unknown acute oral toxicity.

2% of the mixture consists of ingredients of unknown acute dermal toxicity.

## SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | C.A.S. No. | % by Wt | Common Name |
|---|---|---|---|
| Cyclohexane | 110-82-7 | 30 - 60 Trade Secret * | Cyclohexane |
| Xylene | 1330-20-7 | 30 - 60 Trade Secret * | Dimethylbenzene |
| Ethylbenzene | 100-41-4 | 5 - 10 Trade Secret * | Benzene, ethyl- |
| Ethyl Alcohol | 64-17-5 | 5 - 10 | Ethanol |
| Acrylate Polymer (NJTSRN 04499600-5984P) | Trade Secret | 1 - 5 | Not Applicable |
| Chlorinated Rubber | 68609-36-9 | 1 - 5 | 2,5-Furandione, reaction products with polypropylene, chlorinated |
| Ethyl Acetate | 141-78-6 | < 4 | Acetic acid ethyl ester |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | 25068-38-6 | 0.1 - 1 Trade Secret * | Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane |
| Methyl Alcohol | 67-56-1 | < 0.5 | Methanol |
| Toluene | 108-88-3 | 0.1 - 1 Trade Secret * | Benzene, methyl- |

*The actual concentration of this ingredient has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

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

**Skin Contact:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

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

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**
See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**
Not applicable

## SECTION 5: Fire-fighting measures

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

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

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

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Aldehydes | During Combustion |
| Formaldehyde | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Chloride | During Combustion |

**5.3. Special protective actions for fire-fighters**
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**
Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
For industrial or professional use only. 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 oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

**7.2. Conditions for safe storage including any incompatibilities**
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|---|---|---|---|
| Ethylbenzene | 100-41-4 | ACGIH | TWA:20 ppm | |
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Xylene | 1330-20-7 | ACGIH | TWA:100 ppm;STEL:150 ppm | |
| Ethyl Acetate | 141-78-6 | ACGIH | TWA:400 ppm | |
| Ethyl Alcohol | 64-17-5 | ACGIH | STEL:1000 ppm | |
| Methyl Alcohol | 67-56-1 | ACGIH | TWA:200 ppm;STEL:250 ppm | SKIN |

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

### 8.2. Exposure controls

#### 8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

#### 8.2.2. Personal protective equipment (PPE)

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

**Skin/hand protection**
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. 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 (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid |
| **Specific Physical Form:** | Sponge holding approximately 2 milliliters of liquid. |
| **Appearance/Odour** | Liquid: yellow, solvent odour, absorbed onto a sponge. Physical properties reflect the liquid only. |
| **Odour threshold** | *No Data Available* |
| **pH** | 4.4 - 5 [*Test Method:*Tested per ASTM protocol] [*Details:*@23°C] |
| **Melting point/Freezing point** | *Not Applicable* |
| **Boiling point** | 73.1 ºC [*Test Method:*Tested per ASTM protocol] [*Details:*@760mmHg] |
| **Flash Point** | 1.1 ºC [*Test Method:*Setaflash ] |
| **Evaporation rate** | 6.4 [*Test Method:*Estimated] [*Ref Std:*XYLENE=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | 1 % [*Test Method:*Estimated] |
| **Flammable Limits(UEL)** | 6 % [*Test Method:*Estimated] |
| **Vapour Pressure** | 11,092.4 Pa [@ 20 ºC ] [*Test Method:*Tested per ASTM protocol] |
| **Vapour Density** | 1.7 [*Test Method:*Estimated] [*Ref Std:*AIR=1] |
| **Density** | 0.82 g/ml |
| **Relative density** | 0.82 [*Ref Std:*WATER=1] |
| **Water solubility** | 10 % |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | 430 ºC |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | <=25 mPa-s [@ 20 ºC ] |
| **Molecular weight** | *No Data Available* |
| **Volatile Organic Compounds** | <=781 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*Calculated] |
| **Percent volatile** | Approximately 95 % |
| **VOC Less H2O & Exempt Solvents** | <=781 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*Calculated] |

## SECTION 10: Stability and reactivity

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

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
Heat
Sparks and/or flames

**10.5. Incompatible materials**
Strong acids

Strong oxidizing agents

**10.6. Hazardous decomposition products**

| Substance | Condition |
|---|---|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

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

**11.1. Information on Toxicological effects**

**Signs and Symptoms of Exposure**

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

**Inhalation:**
May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

**Skin Contact:**
May be harmful in contact with skin. Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching. May cause additional health effects (see below).

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. May cause additional health effects (see below).

**Additional Health Effects:**

**Single exposure may cause target organ effects:**
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

**Prolonged or repeated exposure may cause target organ effects:**
Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

**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.

| Ingredient | CAS No. | Class Description | Regulation |
|---|---|---|---|
| Ethylbenzene | 100-41-4 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

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

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE2,000 - 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE20 - 50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| 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 |
| Xylene | Dermal | Rabbit | LD50 > 4,200 mg/kg |
| Xylene | Inhalation-Vapor (4 hours) | Rat | LC50 29 mg/l |
| Xylene | Ingestion | Rat | LD50 3,523 mg/kg |
| Ethylbenzene | Dermal | Rabbit | LD50 15,433 mg/kg |
| Ethylbenzene | Inhalation-Vapor (4 hours) | Rat | LC50 17.4 mg/l |
| Ethylbenzene | Ingestion | Rat | LD50 4,769 mg/kg |
| Ethyl Alcohol | Dermal | Rabbit | LD50 > 15,800 mg/kg |
| Ethyl Alcohol | Inhalation-Vapor (4 hours) | Rat | LC50 124.7 mg/l |
| Ethyl Alcohol | Ingestion | Rat | LD50 17,800 mg/kg |
| Ethyl Acetate | Dermal | Rabbit | LD50 > 18,000 mg/kg |
| Ethyl Acetate | Inhalation-Vapor (4 hours) | Rat | LC50 70.5 mg/l |
| Ethyl Acetate | Ingestion | Rat | LD50 5,620 mg/kg |
| Chlorinated Rubber | Dermal | Guinea pig | LD50 > 1,000 mg/kg |
| Chlorinated Rubber | Ingestion | Rat | LD50 > 3,200 mg/kg |
| Methyl Alcohol | Dermal | | LD50 estimated to be 1,000 - 2,000 mg/kg |
| Methyl Alcohol | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| Methyl Alcohol | Ingestion | | LD50 estimated to be 50 - 300 mg/kg |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Dermal | Rat | LD50 > 1,600 mg/kg |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Ingestion | Rat | LD50 > 1,000 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 |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethylbenzene | Rabbit | Mild irritant |
| Ethyl Alcohol | Rabbit | No significant irritation |

| | | |
|---|---|---|
| Ethyl Acetate | Rabbit | Minimal irritation |
| Chlorinated Rubber | Guinea pig | No significant irritation |
| Methyl Alcohol | Rabbit | Mild irritant |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Rabbit | Mild irritant |
| Toluene | Rabbit | Irritant |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethylbenzene | Rabbit | Moderate irritant |
| Ethyl Alcohol | Rabbit | Severe irritant |
| Ethyl Acetate | Rabbit | Mild irritant |
| Chlorinated Rubber | Professional judgement | Mild irritant |
| Methyl Alcohol | Rabbit | Moderate irritant |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Rabbit | Moderate irritant |
| Toluene | Rabbit | Moderate irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Ethylbenzene | Human | Not classified |
| Ethyl Alcohol | Human | Not classified |
| Ethyl Acetate | Guinea pig | Not classified |
| Methyl Alcohol | Guinea pig | Not classified |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Human and animal | Sensitizing |
| Toluene | Guinea pig | Not classified |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Human | Not classified |

**Germ Cell Mutagenicity**

| Name | Route | Value |
|---|---|---|
| Cyclohexane | In Vitro | Not mutagenic |
| Cyclohexane | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Xylene | In Vitro | Not mutagenic |
| Xylene | In vivo | Not mutagenic |
| Ethylbenzene | In vivo | Not mutagenic |
| Ethylbenzene | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alcohol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Alcohol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Ethyl Acetate | In Vitro | Not mutagenic |
| Ethyl Acetate | In vivo | Not mutagenic |
| Methyl Alcohol | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Methyl Alcohol | In vivo | Some positive data exist, but the data are not sufficient for classification |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | In vivo | Not mutagenic |

| | | |
|---|---|---|
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |

## Carcinogenicity

| Name | Route | Species | Value |
|---|---|---|---|
| Xylene | Dermal | Rat | Not carcinogenic |
| Xylene | Ingestion | Multiple animal species | Not carcinogenic |
| Xylene | Inhalation | Human | Some positive data exist, but the data are not sufficient for classification |
| Ethylbenzene | Inhalation | Multiple animal species | Carcinogenic |
| Ethyl Alcohol | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Methyl Alcohol | Inhalation | Multiple animal species | Not carcinogenic |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Dermal | Mouse | 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 |

## Reproductive Toxicity

## Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|
| 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 |
| Xylene | Inhalation | Not classified for female reproduction | Human | NOAEL Not available | occupational exposure |
| Xylene | Ingestion | Not classified for development | Mouse | NOAEL Not available | during organogenesis |
| Xylene | Inhalation | Not classified for development | Multiple animal species | NOAEL Not available | during gestation |
| Ethylbenzene | Inhalation | Not classified for development | Rat | NOAEL 4.3 mg/l | premating & during gestation |
| Ethyl Alcohol | Inhalation | Not classified for development | Rat | NOAEL 38 mg/l | during gestation |
| Ethyl Alcohol | Ingestion | Not classified for development | Rat | NOAEL 5,200 mg/kg/day | premating & during gestation |
| Methyl Alcohol | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,600 mg/kg/day | 21 days |
| Methyl Alcohol | Ingestion | Toxic to development | Mouse | LOAEL 4,000 mg/kg/day | during organogenesis |
| Methyl Alcohol | Inhalation | Toxic to development | Mouse | NOAEL 1.3 mg/l | during organogenesis |

| | | | | | |
|---|---|---|---|---|---|
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 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 |

## Lactation

| Name | Route | Species | Value |
|---|---|---|---|
| Xylene | Ingestion | Mouse | Not classified for effects on or via lactation |

## Target Organ(s)

## Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| 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 | |
| Xylene | Inhalation | auditory system | Causes damage to organs | Rat | LOAEL 6.3 mg/l | 8 hours |
| Xylene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Xylene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Xylene | Inhalation | eyes | Not classified | Rat | NOAEL 3.5 mg/l | not available |
| Xylene | Inhalation | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | eyes | Not classified | Rat | NOAEL 250 mg/kg | not applicable |
| Ethylbenzene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Ethylbenzene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human and animal | NOAEL Not available | |
| Ethylbenzene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Professional judgement | NOAEL Not available | |
| Ethyl Alcohol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | LOAEL 2.6 mg/l | 30 minutes |

| | | | | | | |
|---|---|---|---|---|---|---|
| Ethyl Alcohol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | LOAEL 9.4 mg/l | not available |
| Ethyl Alcohol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Multiple animal species | NOAEL not available | |
| Ethyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |
| Ethyl Acetate | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Ethyl Acetate | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Ethyl Acetate | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Methyl Alcohol | Inhalation | blindness | Causes damage to organs | Human | NOAEL Not available | occupational exposure |
| Methyl Alcohol | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | not available |
| Methyl Alcohol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 6 hours |
| Methyl Alcohol | Ingestion | blindness | Causes damage to organs | Human | NOAEL Not available | poisoning and/or abuse |
| Methyl Alcohol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Toluene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Toluene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| Toluene | Inhalation | immune system | Not classified | Mouse | NOAEL 0.004 mg/l | 3 hours |
| Toluene | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |

## Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|---|---|---|---|---|---|---|
| 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 |
| Xylene | Inhalation | nervous system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.4 mg/l | 4 weeks |
| Xylene | Inhalation | auditory system | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 7.8 mg/l | 5 days |
| Xylene | Inhalation | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Xylene | Inhalation | heart \| endocrine system \| gastrointestinal tract \| hematopoietic system \| muscles \| kidney and/or bladder \| respiratory system | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Ingestion | auditory system | Not classified | Rat | NOAEL 900 mg/kg/day | 2 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| Xylene | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 1,500 mg/kg/day | 90 days |
| Xylene | Ingestion | liver | Not classified | Multiple animal species | NOAEL Not available | |
| Xylene | Ingestion | heart \| skin \| endocrine system \| bone, teeth, nails, and/or hair \| hematopoietic system \| immune system \| nervous system \| respiratory system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Ethylbenzene | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1.1 mg/l | 2 years |
| Ethylbenzene | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | NOAEL 1.1 mg/l | 103 weeks |
| Ethylbenzene | Inhalation | hematopoietic system | Not classified | Rat | NOAEL 3.4 mg/l | 28 days |
| Ethylbenzene | Inhalation | auditory system | Not classified | Rat | NOAEL 2.4 mg/l | 5 days |
| Ethylbenzene | Inhalation | endocrine system | Not classified | Mouse | NOAEL 3.3 mg/l | 103 weeks |
| Ethylbenzene | Inhalation | gastrointestinal tract | Not classified | Rat | NOAEL 3.3 mg/l | 2 years |
| Ethylbenzene | Inhalation | bone, teeth, nails, and/or hair \| muscles | Not classified | Multiple animal species | NOAEL 4.2 mg/l | 90 days |
| Ethylbenzene | Inhalation | heart \| immune system \| respiratory system | Not classified | Multiple animal species | NOAEL 3.3 mg/l | 2 years |
| Ethylbenzene | Ingestion | liver \| kidney and/or bladder | Not classified | Rat | NOAEL 680 mg/kg/day | 6 months |
| Ethyl Alcohol | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rabbit | LOAEL 124 mg/l | 365 days |
| Ethyl Alcohol | Inhalation | hematopoietic system \| immune system | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| Ethyl Alcohol | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 8,000 mg/kg/day | 4 months |
| Ethyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg/day | 7 days |
| Ethyl Acetate | Inhalation | endocrine system \| liver \| nervous system | Not classified | Rat | NOAEL 0.043 mg/l | 90 days |
| Ethyl Acetate | Inhalation | hematopoietic system | Not classified | Rabbit | LOAEL 16 mg/l | 40 days |
| Ethyl Acetate | Ingestion | hematopoietic system \| liver \| kidney and/or bladder | Not classified | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| Methyl Alcohol | Inhalation | liver | Not classified | Rat | NOAEL 6.55 mg/l | 4 weeks |
| Methyl Alcohol | Inhalation | respiratory system | Not classified | Rat | NOAEL 13.1 mg/l | 6 weeks |
| Methyl Alcohol | Ingestion | liver \| nervous system | Not classified | Rat | NOAEL 2,500 mg/kg/day | 90 days |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| 4,4'-isopropylidenediphenol-epichlorohydrin polymer | Ingestion | auditory system \| heart \| endocrine system \| hematopoietic system \| liver \| eyes \| kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Toluene | Inhalation | auditory system \| nervous system \| eyes \| 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 \| liver \| kidney and/or bladder | Not classified | Rat | NOAEL 11.3 mg/l | 15 weeks |
| Toluene | Inhalation | endocrine system | Not classified | Rat | NOAEL 1.1 mg/l | 4 weeks |
| Toluene | Inhalation | immune system | Not classified | Mouse | NOAEL Not available | 20 days |
| Toluene | Inhalation | bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 1.1 mg/l | 8 weeks |
| Toluene | Inhalation | hematopoietic system \| vascular system | Not classified | Human | NOAEL Not available | occupational exposure |
| Toluene | Inhalation | gastrointestinal tract | Not classified | Multiple animal species | NOAEL 11.3 mg/l | 15 weeks |
| Toluene | Ingestion | nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 625 mg/kg/day | 13 weeks |
| Toluene | Ingestion | heart | Not classified | Rat | NOAEL 2,500 mg/kg/day | 13 weeks |
| Toluene | Ingestion | liver \| kidney and/or bladder | Not classified | Multiple animal species | NOAEL 2,500 mg/kg/day | 13 weeks |
| Toluene | Ingestion | hematopoietic system | Not classified | Mouse | NOAEL 600 mg/kg/day | 14 days |
| Toluene | Ingestion | endocrine system | Not classified | Mouse | NOAEL 105 mg/kg/day | 28 days |
| Toluene | Ingestion | immune system | Not classified | Mouse | NOAEL 105 mg/kg/day | 4 weeks |

**Aspiration Hazard**

| Name | Value |
|---|---|
| Cyclohexane | Aspiration hazard |
| Xylene | Aspiration hazard |
| Ethylbenzene | Aspiration hazard |
| Toluene | 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

No data available.

## SECTION 13: Disposal considerations

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

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Global inventory status**

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

## SECTION 16: Other information

**National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.**
**Health:** 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

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

| | | | |
|---|---|---|---|
| **Document group:** | 19-6313-1 | **Version number:** | 9.00 |
| **Issue Date:** | 2018/10/02 | **Supercedes Date:** | 2017/07/13 |

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF PERFORMANCE, COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

**3M Canada SDSs are available at www.3M.ca**