# Safety Data Sheet

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

## SECTION 1: Identification

### 1.1. Product identifier

3M™ Primer 94

**Product Identification Numbers**

| | | | | |
|---|---|---|---|---|
| 11-0033-2070-9 | 11-4001-7787-6 | 70-0064-1371-3 | 70-0075-4882-2 | 70-0160-4782-4 |
| 70-0160-5476-2 | 70-0160-5477-0 | 70-0160-5478-8 | 70-0160-5497-8 | 70-0160-5499-4 |
| 70-0160-5500-9 | 70-0160-5501-7 | 70-0160-5506-6 | 70-0160-5507-4 | 70-0160-5508-2 |
| 70-0705-7964-7 | 70-0707-4298-9 | 75-0400-2417-8 | AT-0105-5821-4 | AT-0105-5827-1 |
| AT-0191-9654-5 | H0-0017-3128-2 | H0-0017-3728-9 | HB-0040-4920-9 | HB-0042-9605-7 |
| HB-0045-3200-6 | IA-1201-0118-2 | IA-1201-0331-1 | IA-1201-5458-7 | IA-1201-5768-9 |
| JS-3000-4963-7 | JS-3000-5087-4 | JS-3000-5088-2 | JS-3000-5105-4 | JS-3000-5129-4 |
| XD-0055-2899-2 | XD-0055-2904-0 | XD-0055-2913-1 | XD-0055-2924-8 | XF-0038-3863-8 |
| XF-6001-4055-2 | XF-6001-4056-0 | XI-0039-2700-5 | XI-0039-2719-5 | XI-0039-2857-3 |
| XN-0005-6966-7 | XT-0007-0061-4 | XT-0007-0096-0 | | |

### 1.2. Recommended use and restrictions on use

**Intended Use**
Industrial use, Primer

**Specific Use**
Adhesion Promoter

**Restrictions on use**
Not applicable

### 1.3. Supplier's details

| | |
|---|---|
| **Company:** | 3M Canada Company |
| **Division:** | Industrial Adhesives and Tapes 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:1-800-3M HELPS / 1800 364 3577

# SECTION 2: Hazard identification

**2.1. Classification of the substance or mixture**
Flammable Liquid: Category 2.
Skin Sensitizer: Category 1A.
Carcinogenicity: Category 2.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Aspiration Hazard: Category 1.

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

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

**Pictograms**



**Hazard Statements**
Highly flammable liquid and vapour.
May cause an allergic skin reaction. Suspected of causing cancer. May damage fertility or the unborn child. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways.
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. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Do not breathe vapours. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, face protection, and if needed, respiratory protection (see SDS Section 8).

**Response:**
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Immediately call a POISON CENTRE or doctor. Get medical attention if you feel unwell. Do NOT induce vomiting. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. 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. Store locked up.

**Disposal:**
Dispose of contents and container in accordance with applicable local, regional, national, and 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 | 15 - 40 Trade Secret * | Dimethylbenzene |
| Ethyl Alcohol | 64-17-5 | 5 - 10 Trade Secret * | Ethanol |
| Ethylbenzene | 100-41-4 | 0.4 - 6.2 | Benzene, ethyl- |
| Acrylate Polymer | Trade Secret | 1 - 5 | Not Applicable |
| Chlorinated Polyolefin | 68609-36-9 | 1 - 5 | 2,5-Furandione, reaction products with polypropylene, chlorinated |
| Ethyl Acetate | 141-78-6 | 1 - 5 Trade Secret * | Acetic acid ethyl ester |
| Methyl Alcohol | 67-56-1 | 0.1 - 1 Trade Secret * | Methanol |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | 3388-04-3 | 0.1 - 1 Trade Secret * | Silane, trimethoxy[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]- |
| Epoxy Resin | 25068-38-6 | 0.1 - 1 Trade Secret * | Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane |
| Toluene | 108-88-3 | < 0.3 | No Data Available |
| Chlorobenzene | 108-90-7 | < 0.2 | Benzene, chloro- |
| Maleic Anhydride | 108-31-6 | < 0.02 | 2,5-Furandione |

Acrylate Polymer is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

*The concentration (exact or range) of this component 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:**
Do not induce vomiting. Get immediate medical attention.

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

Allergic skin reaction (redness, swelling, blistering, and itching). Aspiration pneumonitis (coughing, gasping, choking, burning of the mouth, and difficulty breathing). 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. Unsuitable extinguishing media**
None Determined

**5.3. 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 |

**5.4. Special protection 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 vapours, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapours 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 dikes to prevent entry into sewer systems or bodies of water.

**6.3. Methods and material for containment and cleaning up**
Contain spill. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it

appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

For industrial or professional 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 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. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidizing agents. Store locked up.

## 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 | |
| Maleic Anhydride | 108-31-6 | ACGIH | TWA(inhalable fraction and vapor): 0.01 mg/m3 | Dermal/Respiratory Sensitizer |
| Toluene | 108-88-3 | ACGIH | TWA:20 ppm | |
| Chlorobenzene | 108-90-7 | ACGIH | TWA:10 ppm | |
| Cyclohexane | 110-82-7 | ACGIH | TWA:100 ppm | |
| Xylene | 1330-20-7 | ACGIH | TWA:20 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 | Danger of cutaneous absorption |

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. Provide appropriate local exhaust ventilation on open containers.

**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:
Safety Glasses with side shields
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 organic vapours and particulates
Half facepiece or full facepiece supplied-air respirator
Organic vapor cartridges may have short service life.

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

# SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| **Physical state** | Liquid |
| **Specific Physical Form:** | Liquid |
| **Colour** | Amber |
| **Odour** | Mild Solvent |
| **Odour threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point/Freezing point** | *Not Applicable* |
| **Boiling point** | 76.7 ºC |
| **Flash Point** | -17.2 ºC [*Test Method:*Closed Cup] |
| **Evaporation rate** | *No Data Available* |
| **Flammability** | Flammable Liquid: Category 2. |
| **Flammable Limits(LEL)** | 1 % |
| **Flammable Limits(UEL)** | 11 % |
| **Vapour Pressure** | 68 mmHg [@ 68 ºF] |

| | |
|---|---|
| **Relative Vapour Density** | *No Data Available* |
| **Density** | 0.82 g/ml |
| **Relative density** | 0.82 [@ 25 ºC ] [*Ref Std:*WATER=1] |
| **Water solubility** | Negligible |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |
| **Kinematic Viscosity** | 12.2 mm2/sec |
| **Volatile Organic Compounds** | <=97 % [*Test Method:*calculated SCAQMD rule 443.1] |
| **Percent volatile** | 95.3 - 97 % weight [*Test Method:*Estimated] |
| **VOC Less H2O & Exempt Solvents** | 781 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 may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

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

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

**10.5. Incompatible materials**
Strong oxidizing agents

**10.6. Hazardous decomposition products**

| **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:**
Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**
Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish coloured skin (cyanosis), and may be fatal. 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 |

**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 >2,000 - =5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE >20 - =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 |
| 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 |
| 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 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 Polyolefin | Dermal | Guinea pig | LD50 > 1,000 mg/kg |
| Chlorinated Polyolefin | 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 |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Dermal | Rabbit | LD50 6,700 mg/kg |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Inhalation-Vapor (4 hours) | Rat | LC50 > 7 mg/l |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Ingestion | Rat | LD50 13,100 mg/kg |
| Epoxy Resin | Dermal | Rat | LD50 > 1,600 mg/kg |
| Epoxy Resin | 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 |
| Chlorobenzene | Dermal | Rabbit | LD50 2,212 mg/kg |
| Chlorobenzene | Inhalation-Vapor (4 hours) | Rat | LC50 16.7 mg/l |
| Chlorobenzene | Ingestion | Rat | LD50 1,419 mg/kg |
| Maleic Anhydride | Dermal | Rabbit | LD50 2,620 mg/kg |
| Maleic Anhydride | Ingestion | Rat | LD50 1,030 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethyl Alcohol | Rabbit | No significant irritation |
| Ethylbenzene | Rabbit | Mild irritant |
| Ethyl Acetate | Rabbit | Minimal irritation |
| Chlorinated Polyolefin | Guinea pig | No significant irritation |
| Methyl Alcohol | Rabbit | Mild irritant |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Rabbit | Minimal irritation |
| Epoxy Resin | Rabbit | Mild irritant |

| | | |
|---|---|---|
| Toluene | Rabbit | Irritant |
| Chlorobenzene | Rabbit | Irritant |
| Maleic Anhydride | Human and animal | Corrosive |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Cyclohexane | Rabbit | Mild irritant |
| Xylene | Rabbit | Mild irritant |
| Ethyl Alcohol | Rabbit | Severe irritant |
| Ethylbenzene | Rabbit | Moderate irritant |
| Ethyl Acetate | Rabbit | Mild irritant |
| Chlorinated Polyolefin | Professional judgement | Mild irritant |
| Methyl Alcohol | Rabbit | Moderate irritant |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Rabbit | No significant irritation |
| Epoxy Resin | Rabbit | Moderate irritant |
| Toluene | Rabbit | Moderate irritant |
| Chlorobenzene | Rabbit | Mild irritant |
| Maleic Anhydride | Rabbit | Corrosive |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Ethyl Alcohol | Human | Not classified |
| Ethylbenzene | Human | Not classified |
| Ethyl Acetate | Guinea pig | Not classified |
| Methyl Alcohol | Guinea pig | Not classified |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | similar compounds | Sensitizing |
| Epoxy Resin | Human and animal | Sensitizing |
| Toluene | Guinea pig | Not classified |
| Chlorobenzene | Multiple animal species | Not classified |
| Maleic Anhydride | Multiple animal species | Sensitizing |

**Respiratory Sensitization**

| Name | Species | Value |
|---|---|---|
| Epoxy Resin | Human | Not classified |
| Maleic Anhydride | Human | Sensitizing |

**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 |
| 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 |
| Ethylbenzene | In vivo | Not mutagenic |
| Ethylbenzene | In Vitro | 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 |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Epoxy Resin | In vivo | Not mutagenic |
| Epoxy Resin | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo | Not mutagenic |
| Chlorobenzene | In Vitro | Not mutagenic |
| Maleic Anhydride | In vivo | Not mutagenic |
| Maleic Anhydride | In Vitro | Some positive data exist, but the data are not sufficient for classification |

## 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 |
| Ethyl Alcohol | Ingestion | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Ethylbenzene | Inhalation | Multiple animal species | Carcinogenic |
| Methyl Alcohol | Inhalation | Multiple animal species | Not carcinogenic |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Epoxy Resin | 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 |
| Chlorobenzene | Ingestion | Multiple animal species | Not carcinogenic |

## 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 |
| 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 |
| Ethylbenzene | Inhalation | Not classified for development | Rat | NOAEL 4.3 mg/l | 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 |
| Beta-(3,4-Epoxycyclohexyl)ethyltrimethoxy Silane | Ingestion | Not classified for development | Rabbit | NOAEL 0.27 mg/kg/day | during organogenesis |
| Epoxy Resin | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| Epoxy Resin | 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 |
| Chlorobenzene | Inhalation | Not classified for female reproduction | Rat | NOAEL 2.07 mg/l | 2 generation |
| Chlorobenzene | Ingestion | Not classified for development | Rat | NOAEL 300 mg/kg/day | during organogenesis |
| Chlorobenzene | Inhalation | Not classified for development | Rat | NOAEL 2.07 mg/l | 2 generation |
| Chlorobenzene | Inhalation | Not classified for male reproduction | Rat | NOAEL 2.07 mg/l | 2 generation |
| Maleic Anhydride | Ingestion | Not classified for female reproduction | Rat | NOAEL 55 mg/kg/day | 2 generation |
| Maleic Anhydride | Ingestion | Not classified for male reproduction | Rat | NOAEL 55 mg/kg/day | 2 generation |
| Maleic Anhydride | Ingestion | Not classified for development | Rat | NOAEL 140 mg/kg/day | during organogenesis |

## 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 |
| 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 | Inhalation | central nervous system depression | Not classified | Human and animal | NOAEL not available | |
| Ethyl Alcohol | Ingestion | central nervous system depression | Not classified | Multiple animal species | NOAEL not available | |
| Ethyl Alcohol | Ingestion | kidney and/or bladder | Not classified | Dog | NOAEL 3,000 mg/kg | |
| 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 | |
| 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 |
| Epoxy Resin | Inhalation | respiratory irritation | Some positive data exist, but the | similar | NOAEL Not | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | data are not sufficient for classification | health hazards | available | |
| 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 |
| Chlorobenzene | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| Chlorobenzene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |
| Maleic Anhydride | 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 |
|---|---|---|---|---|---|---|
| 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 | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | endocrine system | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | gastrointestinal tract | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | hematopoietic system | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | muscles | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | kidney and/or bladder | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Inhalation | respiratory system | Not classified | Multiple animal species | NOAEL 3.5 mg/l | 13 weeks |
| Xylene | Ingestion | auditory system | Not classified | Rat | NOAEL 900 mg/kg/day | 2 weeks |
| Xylene | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 1,500 mg/kg/day | 90 days |
| Xylene | Ingestion | liver | Not classified | Multiple | NOAEL Not | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | animal species | available | |
| Xylene | Ingestion | heart | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | skin | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | endocrine system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | bone, teeth, nails, and/or hair | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | hematopoietic system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | immune system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | nervous system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| Xylene | Ingestion | respiratory system | Not classified | Mouse | NOAEL 1,000 mg/kg/day | 103 weeks |
| 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 | Not classified | Rat | NOAEL 25 mg/l | 14 days |
| Ethyl Alcohol | Inhalation | 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 |
| Ethylbenzene | Inhalation | auditory system | May cause damage to organs though prolonged or repeated exposure | Rat | LOAEL 0.9 mg/l | 13 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 | 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 | Not classified | Multiple animal species | NOAEL 4.2 mg/l | 90 days |
| Ethylbenzene | Inhalation | muscles | Not classified | Multiple animal species | NOAEL 4.2 mg/l | 90 days |
| Ethylbenzene | Inhalation | heart | Not classified | Multiple animal species | NOAEL 3.3 mg/l | 2 years |
| Ethylbenzene | Inhalation | immune system | Not classified | Multiple animal species | NOAEL 3.3 mg/l | 2 years |
| Ethylbenzene | Inhalation | respiratory system | Not classified | Multiple animal | NOAEL 3.3 mg/l | 2 years |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | species | | |
| Ethylbenzene | Ingestion | liver | Not classified | Rat | NOAEL 680 mg/kg/day | 6 months |
| Ethylbenzene | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 680 mg/kg/day | 6 months |
| Ethyl Acetate | Inhalation | endocrine system | Not classified | Rat | NOAEL 0.043 mg/l | 90 days |
| Ethyl Acetate | Inhalation | liver | Not classified | Rat | NOAEL 0.043 mg/l | 90 days |
| Ethyl Acetate | Inhalation | 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 | Not classified | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| Ethyl Acetate | Ingestion | liver | Not classified | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| Ethyl Acetate | Ingestion | 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 | Not classified | Rat | NOAEL 2,500 mg/kg/day | 90 days |
| Methyl Alcohol | Ingestion | nervous system | Not classified | Rat | NOAEL 2,500 mg/kg/day | 90 days |
| Epoxy Resin | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| Epoxy Resin | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| Epoxy Resin | Ingestion | auditory system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | heart | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | endocrine system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | eyes | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Epoxy Resin | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| 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 | Rat | LOAEL 2.3 | 15 months |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | data are not sufficient for classification | | mg/l | |
| 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 |
| Chlorobenzene | Inhalation | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.69 mg/l | 2 generation |
| Chlorobenzene | Inhalation | liver | Not classified | Rat | NOAEL 2.1 mg/l | 2 generation |
| Chlorobenzene | Inhalation | blood | Not classified | Rat | NOAEL 0.35 mg/l | 24 weeks |
| Chlorobenzene | Ingestion | bone marrow | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 250 mg/kg/day | 13 weeks |
| Chlorobenzene | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 188 mg/kg/day | 192 days |
| Chlorobenzene | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 125 mg/kg/day | 13 weeks |
| Chlorobenzene | Ingestion | immune system | Not classified | Rat | NOAEL 750 mg/kg/day | 13 weeks |
| Maleic Anhydride | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.0011 mg/l | 6 months |
| Maleic Anhydride | Inhalation | endocrine system | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Inhalation | hematopoietic system | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Inhalation | nervous system | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |

| | | | | | | |
|---|---|---|---|---|---|---|
| Maleic Anhydride | Inhalation | heart | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Inhalation | liver | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Inhalation | eyes | Not classified | Rat | NOAEL 0.0098 mg/l | 6 months |
| Maleic Anhydride | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 55 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 250 mg/kg/day | 183 days |
| Maleic Anhydride | Ingestion | heart | Not classified | Rat | NOAEL 600 mg/kg/day | 183 days |
| Maleic Anhydride | Ingestion | nervous system | Not classified | Rat | NOAEL 600 mg/kg/day | 183 days |
| Maleic Anhydride | Ingestion | gastrointestinal tract | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | hematopoietic system | Not classified | Dog | NOAEL 60 mg/kg/day | 90 days |
| Maleic Anhydride | Ingestion | skin | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | endocrine system | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | immune system | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | eyes | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |
| Maleic Anhydride | Ingestion | respiratory system | Not classified | Rat | NOAEL 150 mg/kg/day | 80 days |

**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

### 13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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

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. 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.

## 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.

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