Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M(TM) Adhesion Promoter V-700

Product Identification Numbers
70-0704-3012-2, 70-0704-3013-0, 70-0704-3024-7, 70-0704-3025-4, 70-0704-3029-6, JT-2400-0067-2, JT-2800-3590-1
7010404678

1.2. Recommended use and restrictions on use

Recommended use
Primer

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M Japan Automotive and Aerospace Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Flammable Liquid: Category 2.
Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2A.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
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 vapor.

Harmful if inhaled.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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 | respiratory 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 vapors.
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, and face protection.
In case of inadequate ventilation wear respiratory protection.

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 IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Immediately call a POISON CENTER or doctor.
Get medical attention if you feel unwell.

Do NOT induce vomiting.
If eye irritation persists or if skin irritation or rash occurs: Get medical attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
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.

Supplemental Information:
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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

Ingredient	C.A.S. No.	% by Wt
Xylene	1330-20-7	30 - 60 Trade Secret *
Ethylbenzene	100-41-4	15 - 40 Trade Secret *
M-XYLENE	108-38-3	10 - 30 Trade Secret *
P-XYLENE	106-42-3	10 - 30 Trade Secret *
O-XYLENE	95-47-6	7 - 13 Trade Secret *
Acetone	67-64-1	5 - 10 Trade Secret *
ACRYLIC TERPOLYMER	Trade Secret*	1 - 3
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	9016-87-9	0.5 - 1.5 Trade Secret *
TETRAHYDROFURAN	109-99-9	0.1 - 1 Trade Secret *
Toluene	108-88-3	< 0.6
Methyl isobutyl ketone	108-10-1	< 0.2

*The specific chemical identity and/or exact percentage (concentration) of this composition 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 respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). 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. 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
Isocyanates	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Irritant Vapors or Gases	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build 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. Pour isocyanate decontaminant solution (90% water, 8%

concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/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	A3: Confirmed animal carcin., Ototoxicant
Ethylbenzene	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
P-XYLENE	106-42-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Methyl isobutyl ketone	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
Methyl isobutyl ketone	108-10-1	OSHA	TWA:410 mg/m3(100 ppm)	
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Toluene	108-88-3	OSHA	TWA:200 ppm;CEIL:300 ppm	
TETRAHYDROFURAN	109-99-9	ACGIH	TWA:50 ppm;STEL:100 ppm	A3: Confirmed animal carcin., Danger of cutaneous absorption
TETRAHYDROFURAN	109-99-9	OSHA	TWA:590 mg/m3(200 ppm)	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	OSHA	TWA:435 mg/m3(100 ppm)	

Acetone	67-64-1	ACGIH	TWA:250 ppm;STEL:500 ppm	A4: Not class. as human carcin
Acetone	67-64-1	OSHA	TWA:2400 mg/m3(1000 ppm)	
Methylene bisphenyl isocyanate (MDI)	9016-87-9	ACGIH	TWA:0.005 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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/vapors/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:
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 vapors and particulates
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
Color	Tan, Yellow
Odor	Strong Solvent
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	140 ºC
Flash Point	17.5 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	*No Data Available*
Flammability	Flammable Liquid: Category 2.
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Relative Vapor Density	*No Data Available*
Density	0.9 g/cm3
Relative Density	0.9 [*Ref Std:*WATER=1]
Water solubility	Nil
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	11.1 mm2/sec
Volatile Organic Compounds	*No Data Available*
Percent volatile	96 %
VOC Less H2O & Exempt Solvents	*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
Temperatures above the boiling point

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:
Harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. 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.

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

Ingestion:
May be harmful if swallowed. Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored 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. Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Methyl isobutyl ketone	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Tetrahydrofuran	109-99-9	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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 >10 - =20 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 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
M-XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
M-XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
M-XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
P-XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
P-XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
P-XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
O-XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
O-XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
O-XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
Acetone	Dermal	Rabbit	LD50 > 15,688 mg/kg
Acetone	Inhalation-Vapor (4 hours)	Rat	LC50 76 mg/l
Acetone	Ingestion	Rat	LD50 5,800 mg/kg
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Dermal	Rabbit	LD50 > 5,000 mg/kg
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Ingestion	Rat	LD50 31,600 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
TETRAHYDROFURAN	Dermal	Rat	LD50 > 2,000 mg/kg
TETRAHYDROFURAN	Inhalation-Vapor (4 hours)	Rat	LC50 54 mg/l

TETRAHYDROFURAN	Ingestion	Rat	LD50 1,650 mg/kg
Methyl isobutyl ketone	Dermal	Rabbit	LD50 > 16,000 mg/kg
Methyl isobutyl ketone	Inhalation-Vapor (4 hours)	Rat	LC50 11 mg/l
Methyl isobutyl ketone	Ingestion	Rat	LD50 3,038 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Mild irritant
M-XYLENE	Rabbit	Mild irritant
P-XYLENE	Rabbit	Mild irritant
O-XYLENE	Rabbit	Mild irritant
Acetone	Mouse	Minimal irritation
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	official classification	Irritant
Toluene	Rabbit	Irritant
TETRAHYDROFURAN	Rabbit	Minimal irritation
Methyl isobutyl ketone	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
M-XYLENE	Rabbit	Mild irritant
P-XYLENE	Rabbit	Mild irritant
O-XYLENE	Rabbit	Mild irritant
Acetone	Rabbit	Severe irritant
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	official classification	Severe irritant
Toluene	Rabbit	Moderate irritant
TETRAHYDROFURAN	Rabbit	Corrosive
Methyl isobutyl ketone	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Ethylbenzene	Human	Not classified
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Mouse	Sensitizing
Toluene	Guinea pig	Not classified
TETRAHYDROFURAN	Human and animal	Not classified
Methyl isobutyl ketone	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
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
M-XYLENE	In Vitro	Not mutagenic
M-XYLENE	In vivo	Not mutagenic
P-XYLENE	In Vitro	Not mutagenic
P-XYLENE	In vivo	Not mutagenic
O-XYLENE	In Vitro	Not mutagenic
O-XYLENE	In vivo	Not mutagenic
Acetone	In vivo	Not mutagenic
Acetone	In Vitro	Some positive data exist, but the data are not sufficient for classification
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	In Vitro	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
TETRAHYDROFURAN	In Vitro	Not mutagenic
TETRAHYDROFURAN	In vivo	Not mutagenic
Methyl isobutyl ketone	In Vitro	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
M-XYLENE	Dermal	Rat	Not carcinogenic
M-XYLENE	Ingestion	Multiple animal species	Not carcinogenic
M-XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
P-XYLENE	Dermal	Rat	Not carcinogenic
P-XYLENE	Ingestion	Multiple animal species	Not carcinogenic
P-XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
O-XYLENE	Dermal	Rat	Not carcinogenic
O-XYLENE	Ingestion	Multiple animal species	Not carcinogenic
O-XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Acetone	Not Specified	Multiple animal species	Not carcinogenic
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
TETRAHYDROFURAN	Inhalation	Multiple animal species	Carcinogenic
Methyl isobutyl ketone	Inhalation	Multiple animal species	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
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
M-XYLENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
M-XYLENE	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
M-XYLENE	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
P-XYLENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
P-XYLENE	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
P-XYLENE	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
O-XYLENE	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
O-XYLENE	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
O-XYLENE	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
Acetone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,700 mg/kg/day	13 weeks
Acetone	Inhalation	Not classified for development	Rat	NOAEL 5.2 mg/l	during organogenesis
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
TETRAHYDROFURAN	Ingestion	Not classified for female reproduction	Rat	NOAEL 782 mg/kg/day	2 generation
TETRAHYDROFURAN	Ingestion	Not classified for male reproduction	Rat	NOAEL 782 mg/kg/day	2 generation
TETRAHYDROFURAN	Ingestion	Not classified for development	Rat	NOAEL 305 mg/kg/day	2 generation
TETRAHYDROFURAN	Inhalation	Not classified for development	Mouse	NOAEL 1.8 mg/l	during gestation
Methyl isobutyl ketone	Inhalation	Not classified for female reproduction	Multiple	NOAEL 8.2	2 generation

			animal species	mg/l	
Methyl isobutyl ketone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
Methyl isobutyl ketone	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Not classified for effects on or via lactation
M-XYLENE	Ingestion	Mouse	Not classified for effects on or via lactation
P-XYLENE	Ingestion	Mouse	Not classified for effects on or via lactation
O-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
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	
M-XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
M-XYLENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
M-XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
M-XYLENE	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
M-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
M-XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	

M-XYLENE	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
P-XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
P-XYLENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
P-XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
P-XYLENE	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
P-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
P-XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
P-XYLENE	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
O-XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
O-XYLENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
O-XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
O-XYLENE	Inhalation	eyes	Not classified	Rat	NOAEL 3.5 mg/l	not available
O-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
O-XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
O-XYLENE	Ingestion	eyes	Not classified	Rat	NOAEL 250 mg/kg	not applicable
Acetone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Acetone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 hours
Acetone	Inhalation	liver	Not classified	Guinea pig	NOAEL Not available	
Acetone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not 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
TETRAHYDROFURAN	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
TETRAHYDROFURAN	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
TETRAHYDROFURAN	Inhalation	respiratory system	Not classified	Rabbit	NOAEL 2.9 mg/l	4 hours
TETRAHYDROFURAN	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL 180 mg/kg	not applicable

Methyl isobutyl ketone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
Methyl isobutyl ketone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Methyl isobutyl ketone	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
Methyl isobutyl ketone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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 animal species	NOAEL Not 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	103 weeks

					mg/kg/day	
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
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 species	NOAEL 3.3 mg/l	2 years
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
M-XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
M-XYLENE	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
M-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
M-XYLENE	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks

M-XYLENE	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
M-XYLENE	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
M-XYLENE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
M-XYLENE	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
M-XYLENE	Ingestion	heart	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
M-XYLENE	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
P-XYLENE	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
P-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
P-XYLENE	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
P-XYLENE	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
P-XYLENE	Ingestion	kidney and/or	Not classified	Rat	NOAEL	90 days

		bladder			1,500 mg/kg/day	
P-XYLENE	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
P-XYLENE	Ingestion	heart	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
P-XYLENE	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
O-XYLENE	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
O-XYLENE	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
O-XYLENE	Inhalation	heart	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	muscles	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
O-XYLENE	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
O-XYLENE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
O-XYLENE	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
O-XYLENE	Ingestion	heart	Not classified	Mouse	NOAEL	103 weeks

					1,000 mg/kg/day	
O-XYLENE	Ingestion	skin	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	endocrine system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	immune system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	nervous system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
O-XYLENE	Ingestion	respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Acetone	Dermal	eyes	Not classified	Guinea pig	NOAEL Not available	3 weeks
Acetone	Inhalation	hematopoietic system	Not classified	Human	NOAEL 3 mg/l	6 weeks
Acetone	Inhalation	immune system	Not classified	Human	NOAEL 1.19 mg/l	6 days
Acetone	Inhalation	kidney and/or bladder	Not classified	Guinea pig	NOAEL 119 mg/l	not available
Acetone	Inhalation	heart	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Inhalation	liver	Not classified	Rat	NOAEL 45 mg/l	8 weeks
Acetone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 900 mg/kg/day	13 weeks
Acetone	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 200 mg/kg/day	13 weeks
Acetone	Ingestion	liver	Not classified	Mouse	NOAEL 3,896 mg/kg/day	14 days
Acetone	Ingestion	eyes	Not classified	Rat	NOAEL 3,400 mg/kg/day	13 weeks
Acetone	Ingestion	respiratory system	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Acetone	Ingestion	muscles	Not classified	Rat	NOAEL 2,500 mg/kg	13 weeks
Acetone	Ingestion	skin	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
Acetone	Ingestion	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 11,298 mg/kg/day	13 weeks
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Toluene	Inhalation	auditory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	eyes	Causes damage to organs through	Human	NOAEL Not	poisoning

			prolonged or repeated exposure		available	and/or abuse
Toluene	Inhalation	olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	liver	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
TETRAHYDROFURAN	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.6 mg/l	12 weeks
TETRAHYDROFURAN	Inhalation	respiratory system	Not classified	Rat	NOAEL 2.9 mg/l	12 weeks
TETRAHYDROFURAN	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.6 mg/l	105 weeks
TETRAHYDROFURAN	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	2 weeks
Methyl isobutyl ketone	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
Methyl isobutyl ketone	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
Methyl isobutyl ketone	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
Methyl isobutyl ketone	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
Methyl isobutyl ketone	Inhalation	endocrine system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days

Methyl isobutyl ketone	Inhalation	hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
Methyl isobutyl ketone	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
Methyl isobutyl ketone	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Ingestion	heart	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
Methyl isobutyl ketone	Ingestion	immune system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
Methyl isobutyl ketone	Ingestion	muscles	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
Methyl isobutyl ketone	Ingestion	nervous system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
Methyl isobutyl ketone	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Ethylbenzene	Aspiration hazard
M-XYLENE	Aspiration hazard
P-XYLENE	Aspiration hazard
O-XYLENE	Aspiration hazard
Toluene	Aspiration hazard
Methyl isobutyl ketone	Some positive data exist, but the data are not sufficient for classification

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

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. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Flammable (gases, aerosols, liquids, or solids)

Health Hazards
Acute toxicity
Aspiration Hazard
Carcinogenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Xylene	1330-20-7	Trade Secret 30 - 60
Ethylbenzene	100-41-4	Trade Secret 15 - 40
M-XYLENE	108-38-3	Trade Secret 10 - 30
P-XYLENE	106-42-3	Trade Secret 10 - 30
O-XYLENE	95-47-6	Trade Secret 7 - 13
POLYMETHYLENE POLYPHENYLENE ISOCYANATE	9016-87-9	Trade Secret 0.5 - 1.5
Methyl isobutyl ketone	108-10-1	< 0.2

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Industrial Safety and Health Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this 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.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

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

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