



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M Primer 94

Product Identification Numbers

IA-1201-5458-7

1.2. Recommended use and restrictions on use

Recommended use

Adhesion promoter., Primer

1.3. Supplier's details

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

1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Flammable Liquid: Category 2.
Acute Toxicity (dermal): Category 5.
Acute Toxicity (inhalation): Category 5.
Skin Corrosion/Irritation: Category 3.
Serious Eye Damage/Irritation: Category 2A
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.

Acute Aquatic Toxicity: Category 1.

Chronic Aquatic Toxicity: Category 3.

2.2. Label elements

Signal Word

Danger

Symbols

Flame | Exclamation mark | Health Hazard | Environment |

Pictograms



HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H313 + H333	May be harmful in contact with skin or if inhaled.
H316	Causes mild skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H336	May cause drowsiness or dizziness.
H304	May be fatal if swallowed and enters airways.
H370	Causes damage to organs: sensory organs.
H372	Causes damage to organs through prolonged or repeated exposure: nervous system.
H373	May cause damage to organs through prolonged or repeated exposure: sensory organs.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280K	Wear protective gloves and respiratory protection.

Response:

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

P331	Do NOT induce vomiting.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.
P391	Collect spillage.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Cyclohexane	110-82-7	30 - 60
Xylene	1330-20-7	15 - 35
Ethylbenzene	100-41-4	1 - 15
m-Xylene	108-38-3	< 15*
p-Xylene	106-42-3	< 10*
Ethanol	64-17-5	5 - 10
Ethyl acetate	141-78-6	1 - 5
o-Xylene	95-47-6	< 5*
Acrylate Polymer	Trade Secret	1 - 5
Chlorinated Polyolefin	68609-36-9	< 2
Beta-(3,4-Epoxy-cyclohexyl)Ethyltrimethoxy Silane	3388-04-3	< 1
Toluene	108-88-3	< 1
Propan-2-ol	67-63-0	< 1
Methanol	67-56-1	< 0.5
4-Methylpentan-2-one	108-10-1	< 0.5
Epoxy Resin	25068-38-6	< 0.5
Cumene	98-82-8	< 0.2
Chlorobenzene	108-90-7	< 0.11
Maleic anhydride	108-31-6	< 0.1

*These components are contained as a part of Xylene(1330-20-7)

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. 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

Aldehydes.
Formaldehyde
Carbon monoxide.
Carbon dioxide.
Hydrogen Chloride

Condition

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

5.3. Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators...) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Protect from sunlight. Store away from heat. Store away from acids. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal carcin., Ototoxicant
Benzene, dimethyl-	106-42-3	ACGIH	TWA:20 ppm;STEL:150 ppm	A4: Not class. as human carcin
p-Xylene	106-42-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
4-Methylpentan-2-one	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
Maleic anhydride	108-31-6	ACGIH	TWA(inhalable fraction and vapor):0.01 mg/m ³	A4: Not class. as human carcin, Dermal/Respiratory Sensitizer
Benzene, dimethyl-	108-38-3	ACGIH	TWA:20 ppm;STEL:150 ppm	A4: Not class. as human carcin
m-Xylene	108-38-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Toluene	108-88-3	ACGIH	TWA:20 ppm	A4: Not class. as human carcin, Ototoxicant
Chlorobenzene	108-90-7	ACGIH	TWA:10 ppm	A3: Confirmed animal carcin.
Cyclohexane	110-82-7	ACGIH	TWA:100 ppm	
Xylene	1330-20-7	ACGIH	TWA:20 ppm;STEL:150 ppm	A4: Not class. as human carcin
Ethyl acetate	141-78-6	ACGIH	TWA:400 ppm	
Ethanol	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.
Methanol	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Danger of cutaneous absorption
Propan-2-ol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 ppm	A4: Not class. as human

				carcin
Benzene, dimethyl-	95-47-6	ACGIH	TWA:20 ppm;STEL:150 ppm	A4: Not class. as human carcin
o-Xylene	95-47-6	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Cumene	98-82-8	ACGIH	TWA:5 ppm	A3: Confirmed animal carcin.

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 (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

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

Half facepiece or full facepiece supplied-air respirator

Organic vapor respirators 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.
Color	Amber
Odor	Solvent
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	76.7 °C
Flash point	-17.2 °C [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	11 %
Vapour pressure	9,065.9 Pa [<i>@ 20 °C</i>]
Vapor Density and/or Relative Vapor Density	<i>No data available.</i>
Density	0.82 g/ml
Relative density	0.82 [<i>@ 25 °C</i>] [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	1 - 35 mPa-s [<i>@ 23 °C</i>]
Volatile organic compounds (VOC)	781 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] [<i>Details: low solids less exempts</i>]
Percent volatile	95.3 - 97 % weight [<i>Test Method: Estimated</i>]
VOC less H2O & exempt solvents	781 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] [<i>Details: low solids less exempts</i>]
Molecular weight	<i>No data available.</i>

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

Sparks and/or flames.

10.5 Incompatible materials

Strong oxidising agents.

10.6 Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation

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

Skin contact

May be harmful in contact with skin.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching. May cause additional health effects (see below).

Eye contact

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

Ingestion

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 diarrhoea. 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 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.

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
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
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
Ethanol	Dermal	Rabbit	LD50 > 15,800 mg/kg
Ethanol	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
Ethanol	Ingestion	Rat	LD50 17,800 mg/kg
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
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
Propan-2-ol	Dermal	Rabbit	LD50 12,870 mg/kg
Propan-2-ol	Inhalation-Vapor (4 hours)	Rat	LC50 72.6 mg/l
Propan-2-ol	Ingestion	Rat	LD50 4,710 mg/kg

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Methanol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methanol	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Methanol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Beta-(3,4-Epoxy cyclohexyl)Ethyltrimethoxy Silane	Dermal	Rabbit	LD50 6,700 mg/kg
Beta-(3,4-Epoxy cyclohexyl)Ethyltrimethoxy Silane	Inhalation-Vapor (4 hours)	Rat	LC50 > 7 mg/l
Beta-(3,4-Epoxy cyclohexyl)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
4-Methylpentan-2-one	Dermal	Rabbit	LD50 > 16,000 mg/kg
4-Methylpentan-2-one	Inhalation-Vapor (4 hours)	Rat	LC50 11 mg/l
4-Methylpentan-2-one	Ingestion	Rat	LD50 3,038 mg/kg
Cumene	Dermal	Rabbit	LD50 > 3,160 mg/kg
Cumene	Inhalation-Vapor (4 hours)	Rat	LC50 39.4 mg/l
Cumene	Ingestion	Rat	LD50 1,400 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
m-Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Mild irritant
Ethanol	Rabbit	No significant irritation
p-Xylene	Rabbit	Mild irritant
o-Xylene	Rabbit	Mild irritant
Ethyl acetate	Rabbit	Minimal irritation
Chlorinated Polyolefin	Guinea pig	No significant irritation
Propan-2-ol	Multiple animal species	No significant irritation
Methanol	Rabbit	Mild irritant
Beta-(3,4-Epoxy cyclohexyl)Ethyltrimethoxy Silane	Rabbit	Minimal irritation
Epoxy Resin	Rabbit	Mild irritant
Toluene	Rabbit	Irritant
4-Methylpentan-2-one	Rabbit	Mild irritant
Cumene	Rabbit	Minimal irritation
Chlorobenzene	Rabbit	Irritant
Maleic anhydride	Human and animal	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
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Cyclohexane	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
m-Xylene	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
Ethanol	Rabbit	Severe irritant
p-Xylene	Rabbit	Mild irritant
o-Xylene	Rabbit	Mild irritant
Ethyl acetate	Rabbit	Mild irritant
Chlorinated Polyolefin	Professional judgement	Mild irritant
Propan-2-ol	Rabbit	Severe irritant
Methanol	Rabbit	Moderate irritant
Beta-(3,4-Epoxy cyclohexyl)Ethyltrimethoxy Silane	Rabbit	No significant irritation
Epoxy Resin	Rabbit	Moderate irritant
Toluene	Rabbit	Moderate irritant
4-Methylpentan-2-one	Rabbit	Mild irritant
Cumene	Rabbit	Mild irritant
Chlorobenzene	Rabbit	Mild irritant
Maleic anhydride	Rabbit	Corrosive

Sensitization:**Skin Sensitisation**

Name	Species	Value
Ethylbenzene	Human	Not classified
Ethanol	Human	Not classified
Ethyl acetate	Guinea pig	Not classified
Propan-2-ol	Guinea pig	Not classified
Methanol	Guinea pig	Not classified
Beta-(3,4-Epoxy cyclohexyl)Ethyltrimethoxy Silane	similar compounds	Sensitising
Epoxy Resin	Human and animal	Sensitising
Toluene	Guinea pig	Not classified
4-Methylpentan-2-one	Guinea pig	Not classified
Cumene	Guinea pig	Not classified
Chlorobenzene	Multiple animal species	Not classified
Maleic anhydride	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
Epoxy Resin	Human	Not classified
Maleic anhydride	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
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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
m-Xylene	In Vitro	Not mutagenic
m-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
Ethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethanol	In vivo	Some positive data exist, but the data are not sufficient for classification
p-Xylene	In Vitro	Not mutagenic
p-Xylene	In vivo	Not mutagenic
o-Xylene	In Vitro	Not mutagenic
o-Xylene	In vivo	Not mutagenic
Ethyl acetate	In Vitro	Not mutagenic
Ethyl acetate	In vivo	Not mutagenic
Propan-2-ol	In Vitro	Not mutagenic
Propan-2-ol	In vivo	Not mutagenic
Methanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methanol	In vivo	Some positive data exist, but the data are not sufficient for classification
Beta-(3,4-Epoxy cyclohexyl)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
4-Methylpentan-2-one	In Vitro	Not mutagenic
Cumene	In Vitro	Not mutagenic
Cumene	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
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
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
Ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
p-Xylene	Dermal	Rat	Not carcinogenic
p-Xylene	Ingestion	Multiple animal	Not carcinogenic

		species	
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
Propan-2-ol	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Methanol	Inhalation	Multiple animal species	Not carcinogenic
Beta-(3,4-Epoxy-cyclohexyl)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
4-Methylpentan-2-one	Inhalation	Multiple animal species	Carcinogenic.
Cumene	Inhalation	Multiple animal species	Carcinogenic.
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
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
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	prematuring & during gestation
Ethanol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethanol	Ingestion	Not classified for development	Rat	NOAEL 5,200	prematuring & during

				mg/kg/day	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
Propan-2-ol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
Propan-2-ol	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
Propan-2-ol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis
Propan-2-ol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation
Methanol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,600 mg/kg/day	21 days
Methanol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methanol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis
Beta-(3,4-Epoxy(cyclohexyl)Ethyl)trimethoxy 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
4-Methylpentan-2-one	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-Methylpentan-2-one	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-Methylpentan-2-one	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
4-Methylpentan-2-one	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis
Cumene	Inhalation	Not classified for development	Rabbit	NOAEL 11.3 mg/l	during organogenesis
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
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
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
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
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	
Ethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethanol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
Ethanol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
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
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	
Propan-2-ol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propan-2-ol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Propan-2-ol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
Propan-2-ol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Methanol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Methanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methanol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Methanol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
4-Methylpentan-2-one	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
4-Methylpentan-2-one	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
4-Methylpentan-2-one	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
4-Methylpentan-2-one	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable
Cumene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
Cumene	Inhalation	respiratory irritation	May cause respiratory irritation	Human	LOAEL 0.2 mg/l	occupational exposure
Cumene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	not available
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 through prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart endocrine	Not classified	Multiple	NOAEL 3.5	13 weeks

		system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system		animal species	mg/l	
Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
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 endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
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 skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3	103 weeks

Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	mg/l NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart immune system respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Ethanol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethanol	Inhalation	hematopoietic system immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
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 endocrine system gastrointestinal tract hematopoietic system muscles kidney and/or bladder respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
p-Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
p-Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
p-Xylene	Ingestion	liver	Not classified	Multiple animal species	NOAEL Not available	
p-Xylene	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
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 endocrine system gastrointestinal tract hematopoietic	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks

		system muscles kidney and/or bladder respiratory system				
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 skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Ethyl acetate	Inhalation	endocrine system liver nervous system	Not classified	Rat	NOAEL 0.043 mg/l	90 days
Ethyl acetate	Inhalation	hematopoietic system	Not classified	Rabbit	LOAEL 16 mg/l	40 days
Ethyl acetate	Ingestion	hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 3,600 mg/kg/day	90 days
Propan-2-ol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
Propan-2-ol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
Propan-2-ol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks
Methanol	Inhalation	liver	Not classified	Rat	NOAEL 6.55 mg/l	4 weeks
Methanol	Inhalation	respiratory system	Not classified	Rat	NOAEL 13.1 mg/l	6 weeks
Methanol	Ingestion	liver 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 heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Toluene	Inhalation	auditory system eyes olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart liver kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1	4 weeks

					mg/l	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
4-Methylpentan-2-one	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
4-Methylpentan-2-one	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
4-Methylpentan-2-one	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
4-Methylpentan-2-one	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
4-Methylpentan-2-one	Inhalation	endocrine system hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
4-Methylpentan-2-one	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
4-Methylpentan-2-one	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4-Methylpentan-2-one	Ingestion	heart immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days
Cumene	Inhalation	auditory system endocrine system hematopoietic system liver nervous system eyes	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4.9 mg/l	13 weeks
Cumene	Inhalation	respiratory system	Not classified	Rat	NOAEL 59 mg/l	13 weeks
Cumene	Ingestion	kidney and/or bladder heart endocrine system hematopoietic system liver respiratory system	Not classified	Rat	NOAEL 769 mg/kg/day	6 months

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 hematopoietic system nervous system kidney and/or bladder heart liver 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 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 endocrine system immune system eyes respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days

Aspiration Hazard

Name	Value
Cyclohexane	Aspiration hazard
Xylene	Aspiration hazard
m-Xylene	Aspiration hazard
Ethylbenzene	Aspiration hazard
p-Xylene	Aspiration hazard
o-Xylene	Aspiration hazard
Toluene	Aspiration hazard
4-Methylpentan-2-one	Some positive data exist, but the data are not sufficient for classification
Cumene	Aspiration hazard

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

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be

reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Cyclohexane	110-82-7	Bacteria	Experimental	24 hours	IC50	97 mg/l
Cyclohexane	110-82-7	Fathead minnow	Experimental	96 hours	LC50	4.53 mg/l
Cyclohexane	110-82-7	Water flea	Experimental	48 hours	EC50	0.9 mg/l
Xylene	1330-20-7	Activated sludge	Estimated	3 hours	NOEC	157 mg/l
Xylene	1330-20-7	Green algae	Estimated	72 hours	EC50	4.36 mg/l
Xylene	1330-20-7	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Estimated	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green algae	Estimated	72 hours	NOEC	0.44 mg/l
Xylene	1330-20-7	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	EC50	4.36 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	48 hours	EC50	3.82 mg/l
Ethylbenzene	100-41-4	Activated sludge	Experimental	49 hours	EC50	130 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	NOEC	0.44 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	7 days	NOEC	0.96 mg/l
m-Xylene	108-38-3	Activated sludge	Experimental	24 hours	EC50	115 mg/l
m-Xylene	108-38-3	Rainbow trout	Experimental	96 hours	LC50	8.4 mg/l
m-Xylene	108-38-3	Water flea	Experimental	48 hours	EC50	2.4 mg/l
m-Xylene	108-38-3	Rainbow trout	Estimated	56 days	NOEC	1.3 mg/l
m-Xylene	108-38-3	Green algae	Experimental	72 hours	NOEC	5.3 mg/l
m-Xylene	108-38-3	Water flea	Experimental	21 days	NOEC	0.41 mg/l
Ethanol	64-17-5	Fathead minnow	Experimental	96 hours	LC50	14,200 mg/l
Ethanol	64-17-5	Fish	Experimental	96 hours	LC50	11,000 mg/l
Ethanol	64-17-5	Green algae	Experimental	72 hours	EC50	275 mg/l
Ethanol	64-17-5	Water flea	Experimental	48 hours	LC50	5,012 mg/l
Ethanol	64-17-5	Green algae	Experimental	72 hours	ErC10	11.5 mg/l
Ethanol	64-17-5	Water flea	Experimental	10 days	NOEC	9.6 mg/l
p-Xylene	106-42-3	Activated sludge	Experimental	N/A	EC50	>196 mg/l
p-Xylene	106-42-3	Green algae	Experimental	73 hours	ErC50	4.36 mg/l
p-Xylene	106-42-3	Rainbow trout	Experimental	96 hours	LC50	2.6 mg/l
p-Xylene	106-42-3	Water flea	Experimental	24 hours	EC50	3.6 mg/l
p-Xylene	106-42-3	Green algae	Experimental	73 hours	ErC10	1.9 mg/l
p-Xylene	106-42-3	Water flea	Experimental	21 days	EC10	1.91 mg/l
p-Xylene	106-42-3	Zebra Fish	Experimental	35 days	NOEC	0.714 mg/l
Acrylate Polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Ethyl acetate	141-78-6	Bacteria	Experimental	18 hours	EC10	2,900 mg/l
Ethyl acetate	141-78-6	Fish	Experimental	96 hours	LC50	212.5 mg/l
Ethyl acetate	141-78-6	Invertebrate	Experimental	48 hours	EC50	165 mg/l
Ethyl acetate	141-78-6	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Ethyl acetate	141-78-6	Water flea	Experimental	21 days	NOEC	2.4 mg/l
o-Xylene	95-47-6	Activated sludge	Estimated	3 hours	NOEC	157 mg/l
o-Xylene	95-47-6	Green algae	Experimental	73 hours	EC50	4.36 mg/l
o-Xylene	95-47-6	Rainbow trout	Experimental	96 hours	LC50	2.6 mg/l
o-Xylene	95-47-6	Water flea	Experimental	24 hours	IC50	1 mg/l

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o-Xylene	95-47-6	Green algae	Experimental	73 hours	NOEC	0.44 mg/l
o-Xylene	95-47-6	Rainbow trout	Experimental	56 days	NOEC	>1.3 mg/l
o-Xylene	95-47-6	Water flea	Experimental	7 days	NOEC	1.17 mg/l
Chlorinated Polyolefin	68609-36-9	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Beta-(3,4-Epoxy-cyclohexyl)ethyltrimethoxy Silane	3388-04-3	Activated sludge	Estimated	30 minutes	IC50	>100 mg/l
Beta-(3,4-Epoxy-cyclohexyl)ethyltrimethoxy Silane	3388-04-3	Green algae	Estimated	72 hours	EC50	280 mg/l
Beta-(3,4-Epoxy-cyclohexyl)ethyltrimethoxy Silane	3388-04-3	Rainbow trout	Estimated	96 hours	LC50	180 mg/l
Beta-(3,4-Epoxy-cyclohexyl)ethyltrimethoxy Silane	3388-04-3	Water flea	Estimated	48 hours	EC50	20 mg/l
Beta-(3,4-Epoxy-cyclohexyl)ethyltrimethoxy Silane	3388-04-3	Green algae	Estimated	72 hours	NOEC	1 mg/l
Propan-2-ol	67-63-0	Bacteria	Experimental	16 hours	LOEC	1,050 mg/l
Propan-2-ol	67-63-0	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Propan-2-ol	67-63-0	Invertebrate	Experimental	24 hours	LC50	>10,000 mg/l
Propan-2-ol	67-63-0	Medaka	Experimental	96 hours	LC50	>100 mg/l
Propan-2-ol	67-63-0	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
Propan-2-ol	67-63-0	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
Propan-2-ol	67-63-0	Water flea	Experimental	21 days	NOEC	100 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Grass Shrimp	Experimental	96 hours	LC50	9.5 mg/l
Toluene	108-88-3	Green algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Leopard frog	Experimental	9 days	LC50	0.39 mg/l
Toluene	108-88-3	Pink Salmon	Experimental	96 hours	LC50	6.41 mg/l
Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	40 days	NOEC	1.39 mg/l
Toluene	108-88-3	Diatom	Experimental	72 hours	NOEC	10 mg/l
Toluene	108-88-3	Water flea	Experimental	7 days	NOEC	0.74 mg/l
Toluene	108-88-3	Activated sludge	Experimental	12 hours	IC50	292 mg/l
Toluene	108-88-3	Bacteria	Experimental	16 hours	NOEC	29 mg/l
Toluene	108-88-3	Bacteria	Experimental	24 hours	EC50	84 mg/l
Toluene	108-88-3	Redworm	Experimental	28 days	LC50	>150 mg per kg of bodyweight
Toluene	108-88-3	Soil microbes	Experimental	28 days	NOEC	<26 mg/kg (Dry Weight)
Epoxy Resin	25068-38-6	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Epoxy Resin	25068-38-6	Green algae	Estimated	72 hours	EC50	>11 mg/l
Epoxy Resin	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Epoxy Resin	25068-38-6	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Epoxy Resin	25068-38-6	Green algae	Estimated	72 hours	NOEC	4.2 mg/l
Epoxy Resin	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Methanol	67-56-1	Algae or other aquatic plants	Experimental	96 hours	EC50	16.9 mg/l
Methanol	67-56-1	Bay mussel	Experimental	96 hours	LC50	15,900 mg/l
Methanol	67-56-1	Bluegill	Experimental	96 hours	LC50	15,400 mg/l
Methanol	67-56-1	Green algae	Experimental	96 hours	ErC50	22,000 mg/l
Methanol	67-56-1	Sediment organism	Experimental	96 hours	LC50	54,890 mg/l
Methanol	67-56-1	Water flea	Experimental	48 hours	LC50	3,289 mg/l
Methanol	67-56-1	Green algae	Experimental	96 hours	NOEC	9.96 mg/l
Methanol	67-56-1	Medaka	Experimental	8.33 days	NOEC	158,000 mg/l
Methanol	67-56-1	Water flea	Experimental	21 days	NOEC	122 mg/l
Methanol	67-56-1	Activated sludge	Experimental	3 hours	IC50	>1,000 mg/l
Methanol	67-56-1	Barley	Experimental	14 days	EC50	15,492 mg/kg (Dry Weight)

Methanol	67-56-1	Redworm	Experimental	63 days	EC50	26,646 mg/kg (Dry Weight)
Methanol	67-56-1	Springtail	Experimental	28 days	EC50	5,683 mg/kg (Dry Weight)
4-Methylpentan-2-one	108-10-1	Green algae	Experimental	96 hours	EC50	400 mg/l
4-Methylpentan-2-one	108-10-1	Water flea	Experimental	48 hours	EC50	>200 mg/l
4-Methylpentan-2-one	108-10-1	Zebra Fish	Experimental	96 hours	LC50	>179 mg/l
4-Methylpentan-2-one	108-10-1	Fathead minnow	Experimental	32 days	NOEC	56.2 mg/l
4-Methylpentan-2-one	108-10-1	Water flea	Experimental	21 days	NOEC	78 mg/l
4-Methylpentan-2-one	108-10-1	Activated sludge	Experimental	30 minutes	EC50	>1,000
Cumene	98-82-8	Activated sludge	Experimental	3 hours	EC10	>2,000 mg/l
Cumene	98-82-8	Green algae	Experimental	72 hours	EC50	2.6 mg/l
Cumene	98-82-8	Mysid Shrimp	Experimental	96 hours	EC50	1.2 mg/l
Cumene	98-82-8	Rainbow trout	Experimental	96 hours	LC50	2.7 mg/l
Cumene	98-82-8	Water flea	Experimental	48 hours	EC50	2.14 mg/l
Cumene	98-82-8	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
Cumene	98-82-8	Water flea	Experimental	21 days	NOEC	0.35 mg/l
Chlorobenzene	108-90-7	Bacteria	Experimental	24 hours	IC50	0.71 mg/l
Chlorobenzene	108-90-7	Fish	Experimental	84 hours	LC50	0.34 mg/l
Chlorobenzene	108-90-7	Green algae	Experimental	96 hours	EC50	12.5 mg/l
Chlorobenzene	108-90-7	Water flea	Experimental	48 hours	EC50	0.59 mg/l
Chlorobenzene	108-90-7	Water flea	Experimental	21 days	NOEC	0.72 mg/l
Chlorobenzene	108-90-7	Zebra Fish	Experimental	28 days	NOEC	8.5 mg/l
Maleic anhydride	108-31-6	Bacteria	Experimental	18 hours	EC10	44.6 mg/l
Maleic anhydride	108-31-6	Rainbow trout	Experimental	96 hours	LC50	75 mg/l
Maleic anhydride	108-31-6	Green algae	Hydrolysis Product	72 hours	ErC50	74.4 mg/l
Maleic anhydride	108-31-6	Water flea	Hydrolysis Product	48 hours	EC50	93.8 mg/l
Maleic anhydride	108-31-6	Water flea	Experimental	21 days	NOEC	10 mg/l
Maleic anhydride	108-31-6	Green algae	Hydrolysis Product	72 hours	ErC10	11.8 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Cyclohexane	110-82-7	Experimental Biodegradation	28 days	BOD	77 %BOD/ThOD	OECD 301F - Manometric respirometry
Cyclohexane	110-82-7	Experimental Photolysis		Photolytic half-life (in air)	4.1 days (t 1/2)	
Xylene	1330-20-7	Experimental Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
Xylene	1330-20-7	Experimental Photolysis		Photolytic half-life (in air)	1.4 days (t 1/2)	
Ethylbenzene	100-41-4	Experimental Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
m-Xylene	108-38-3	Experimental Biodegradation	28 days	BOD	100 %BOD/ThOD	OECD 301C - MITI test (I)
Ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 %BOD/ThOD	OECD 301C - MITI test (I)
p-Xylene	106-42-3	Experimental Biodegradation	28 days	BOD	90 %BOD/ThOD	OECD 301F - Manometric respirometry
Acrylate Polymer	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Ethyl acetate	141-78-6	Experimental Biodegradation	14 days	BOD	94 %BOD/ThOD	OECD 301C - MITI test (I)
Ethyl acetate	141-78-6	Experimental Photolysis		Photolytic half-life (in air)	20.0 days (t 1/2)	
o-Xylene	95-47-6	Estimated Biodegradation	28 days	BOD	98 %BOD/ThOD	OECD 301F - Manometric respirometry

Chlorinated Polyolefin	68609-36-9	Data not available-insufficient	N/A	N/A	N/A	N/A
Beta-(3,4-Epoxy cyclohexyl)E thyltrimethoxy Silane	3388-04-3	Estimated Biodegradation	28 days	BOD	28 %BOD/ThOD	OECD 301D - Closed bottle test
Beta-(3,4-Epoxy cyclohexyl)E thyltrimethoxy Silane	3388-04-3	Estimated Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	
Propan-2-ol	67-63-0	Experimental Biodegradation	14 days	BOD	86 %BOD/ThOD	OECD 301C - MITI test (I)
Toluene	108-88-3	Experimental Biodegradation	20 days	BOD	80 %BOD/ThOD	APHA Std Meth Water/Wastewater
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.2 days (t 1/2)	
Epoxy Resin	25068-38-6	Estimated Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Epoxy Resin	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
Methanol	67-56-1	Experimental Biodegradation	3 days	Percent degraded	91 %degraded	
Methanol	67-56-1	Experimental Biodegradation	14 days	BOD	92 %BOD/ThOD	OECD 301C - MITI test (I)
Methanol	67-56-1	Experimental Photolysis		Photolytic half-life (in air)	35 days (t 1/2)	
Methanol	67-56-1	Experimental Soil Metabolism Aerobic	5 days	CO2 evolution	53.4 %CO2 evolution/THCO2 evolution	
4-Methylpentan-2-one	108-10-1	Experimental Biodegradation	28 days	BOD	83 %BOD/ThOD	OECD 301F - Manometric respirometry
4-Methylpentan-2-one	108-10-1	Experimental Photolysis		Photolytic half-life (in air)	2.3 days (t 1/2)	
Cumene	98-82-8	Experimental Biodegradation	14 days	BOD	33 %BOD/ThOD	OECD 301C - MITI test (I)
Cumene	98-82-8	Experimental Photolysis		Photolytic half-life (in air)	4.5 days (t 1/2)	
Chlorobenzene	108-90-7	Experimental Biodegradation	20 days	BOD	55 %BOD/ThOD	OECD 301D - Closed bottle test
Chlorobenzene	108-90-7	Experimental Photolysis		Photolytic half-life (in air)	42 days (t 1/2)	
Maleic anhydride	108-31-6	Hydrolysis product	25 days	CO2 evolution	>90 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Maleic anhydride	108-31-6	Experimental Hydrolysis		Hydrolytic half-life	0.37 minutes (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Cyclohexane	110-82-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	129	OECD305-Bioconcentration
Cyclohexane	110-82-7	Experimental Bioconcentration		Log Kow	3.44	
Xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
Ethylbenzene	100-41-4	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
m-Xylene	108-38-3	Estimated BCF - Fish	56 days	Bioaccumulation factor	14	
Ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.35	
p-Xylene	106-42-3	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	25.9	

p-Xylene	106-42-3	Experimental Bioconcentration		Log Kow	3.15	
Acrylate Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethyl acetate	141-78-6	Experimental Bioconcentration		Log Kow	0.68	
o-Xylene	95-47-6	Experimental Bioconcentration		Log Kow	3.12	
Chlorinated Polyolefin	68609-36-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Beta-(3,4-Epoxy)cyclohexyl)Ethytrimethoxy Silane	3388-04-3	Estimated Bioconcentration		Bioaccumulation factor	2.3	
Propan-2-ol	67-63-0	Experimental Bioconcentration		Log Kow	0.05	
Toluene	108-88-3	Experimental BCF - Other	72 hours	Bioaccumulation factor	90	
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	
Epoxy Resin	25068-38-6	Estimated Bioconcentration		Log Kow	3.242	
Methanol	67-56-1	Experimental BCF - Fish	3 days	Bioaccumulation factor	<4.5	
Methanol	67-56-1	Experimental Bioconcentration		Log Kow	-0.77	
4-Methylpentan-2-one	108-10-1	Experimental Bioconcentration		Log Kow	1.9	OECD 117 log Kow HPLC method
Cumene	98-82-8	Modeled Bioconcentration		Bioaccumulation factor	140	Catalogic™
Cumene	98-82-8	Experimental Bioconcentration		Log Kow	3.55	OECD 107 log Kow shke flask mtd
Chlorobenzene	108-90-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	39.6	OECD305-Bioconcentration
Chlorobenzene	108-90-7	Experimental Bioconcentration		Log Kow	2.84	
Maleic anhydride	108-31-6	Experimental Bioconcentration		Log Kow	-2.61	OECD 107 log Kow shke flask mtd

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility. 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

Air Transport (IATA) Regulations

UN No UN1993

Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (CYCLOHEXANE, XYLENE)

Hazard Class/Division 3

Subsidiary Risk Not applicable

Packing Group: II

Marine Transport (IMDG)

UN No UN1993

Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (CYCLOHEXANE, XYLENE)

Hazard Class/Division 3

Subsidiary Risk Not applicable

Packing Group: II

Environmental Hazards: Marine Pollutant: Yes

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.

Applicable Environmental, Health and Safety Regulations

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

Hazardous Waste(Management , Handling & Transboundary) Rules, 2008

Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

Benzene, 1,2-dimethyl-

Benzene, chloro-

CHLORINATED BENZENES

Chlorobenzene

Cumene

Cyclohexane

Ethyl acetate

Ethanol

Ethylbenzene

Propan-2-ol

Maleic anhydride

Methanol

4-Methylpentan-2-one

o-Xylene

Toluene

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:

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

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 3 **Instability:** 0 **Special Hazards:** None

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

Revision information:

Section 1: Product identification numbers information was added.
Label: GHS Classification information was modified.
Label: GHS Precautionary - Disposal information was deleted.
Label: GHS Precautionary - Prevention information was modified.
Label: GHS Precautionary - Response information was modified.
Label: GHS Target Organ Hazard Statement information was added.
Label: GHS Target Organ Hazard Statement information was modified.
Label: Signal Word information was modified.
Label: Symbol information was modified.
Section 2: Ingredient table information was modified.
Section 03: Prints UVCB CAS #s information was added.
Section 03: Prints UVCB Statement information was added.
Section 8: Eye/face protection information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 09: Nanoparticle information was deleted.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Additional Information information was deleted.
Lactation Table information was modified.
Section 11: Prolonged or repeated exposure may cause standard phrases information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12: Bioaccumulative potential information information was modified.
Section 15: MSIHC Ingredients information was modified.

DISCLAIMER: The information in this Safety Data Sheet (SDS) is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into India, you are responsible to comply with all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

3M India SDSs are available at <http://solutions.3mindia.co.in>