

Material Safety Data Sheet

LA1669
Xylene

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA1669

Product Name: Xylene

Synonyms: Xylol Dimethylbenzene.

Chemical Family: Aromatic Hydrocarbon.

Application: Chemical intermediate. Solvent.

Distributed By:

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2. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Causes moderate eye irritation. Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision.

Skin Contact: Causes moderate skin irritation. Skin irritation signs and symptoms may include a burning sensation, redness, swelling and blisters. May be absorbed through the skin.

Inhalation: Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. The main effect of inhaling xylene vapor is depression of the central nervous system (CNS), with symptoms such as headache, dizziness, nausea and vomiting. Irritation of the nose and throat may also occur. High concentration may cause incoordination, loss of consciousness, respiratory failure and death. Reversible liver and kidney damage has been reported in cases of severe xylene exposure. Neurobehavioral effects such as impaired short term memory and reaction time and alterations in body balance have also been found in short term studies. Aspiration hazard! Small amounts aspirated into the lungs during ingestion or vomiting may cause lung injury, possibly leading to death. Symptoms of aspiration into the lungs include coughing, gasping, choking, shortness of breath, bluish discolored skin, rapid breathing and heart rate. Chemical pneumonitis from aspiration may result in fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may develop immediately or as late as 24 hours after the exposure, depending on how much chemical entered the lungs.

Ingestion: May be slightly toxic. Ingestion of large amounts of xylene is likely to cause CNS effects such as dizziness, nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Xylene, Mixture Of Isomers 1330-20-7	100	Oral LD50 (Rat) 4300 mg/kg (unverified) Inhalation LC50 (Rat) 5000 ppm/4H Inhalation LC50 (Rat) 6350 ppm/4H Dermal LD50 (Rabbit) >1700 mg/kg (unverified) Oral LD50 (Rat Male) 3523 mg/kg Dermal LD50 (Rabbit) >21.3 g/kg

Note: The Xylene has Ethylbenzene, cas no 100-41-4 as part of it's composition. There are three chemical forms (isomers) of xylene, ortho-xylene, meta-xylene and para-xylene. Commercial xylene, generally referred to as xylene (mixed isomers) or technical xylene, is a mixture of widely varying proportions of these three isomers (with m-xylene predominating), together with ethylbenzene (6-20%) and smaller amounts of toluene, trimethylbenzene, phenol, thiophene, pyridine and non-aromatic hydrocarbons.

4. FIRST AID MEASURES

Eye Contact: Flush eyes with gently flowing water for at least 15 minutes or until the chemical is removed, while holding the eyelid(s) open. Take care not to rinse the contaminated water into the unaffected eye or face. Seek immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder before reuse. If irritation persists or signs of toxicity occur, seek medical attention.

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If breathing has stopped, trained personnel should begin artificial respiration (AR) immediately. If breathing is difficult, give oxygen. In situations where administering oxygen is appropriate, first aiders must be trained in the safe use and handling of oxygen. It is preferable to administer oxygen under a doctor's supervision or advice. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Immediate medical assistance is required.

Ingestion: Seek immediate medical attention. Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If breathing has stopped, trained personnel should begin artificial respiration (AR) immediately. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately.

Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient. The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Flash Point: >23 °C / 73 °F

Flash Point Method: ASTM D56

Autoignition Temperature: 432 - 528 °C / 810 - 982°F

Flammable Limits in Air (%): Lower: 0.9% Upper: 7.0%

Extinguishing Media: Dry chemical. Carbon dioxide. Foam. Water mist. Do not use a solid stream of water.

Special Exposure Hazards: Flammable Liquid. Isolate and restrict area access. Stop leak only if safe to do so. Move containers from fire area if you can do it without risk. Fight fire from a safe distance and from a protected location. Use flooding quantities of water for fire and water spray or fog for vapors. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build-up which could result in container rupture. This material may produce a floating fire hazard in extreme fire conditions. This product can produce flammable vapors which may travel to a source of ignition and flash back. Do not allow runoff to enter waterways or sewer.

Hazardous Decomposition/Combustion Materials (under fire conditions): Smoke. Fumes. Incomplete combustion products. Oxides of carbon.

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 2, FLAMMABILITY 3, INSTABILITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 2, FLAMMABILITY 3, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Avoid contact with spilled or released material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material.

Environmental Precautionary Measures: Prevent from entering sewers, waterways or low areas. Consult local authorities.

6. ACCIDENTAL RELEASE MEASURES

Procedure for Clean Up: Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Warn other shipping. Allow liquid to evaporate from the surface. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

7. HANDLING AND STORAGE

Handling: Flammable. For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. DO NOT handle or store near an open flame, heat, or other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. DO NOT pressurize, cut, heat, or weld containers. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. Handling Temperature: Ambient. Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100×10^{-12} Siemens per meter) and is considered a semi conductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semi conductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapor accumulation. Bulk storage tanks should be diked. Vapors from tanks should not be released to atmosphere. For containers or container linings use mild steel or stainless steel. Avoid storage with incompatible materials. The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabeled containers. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge. Store at ambient temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Electrical and mechanical equipment should be explosion proof. Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Firewater monitors and deluge systems are recommended.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Half-face filter respirator. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Gloves:

Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Appropriate chemical resistant gloves should be worn. Break through time >8 hours. Polyvinyl alcohol gloves. Viton gloves. Ethyl Vinyl Alcohol Laminate (EVAL).

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance. Where risk of splashing or in spillage clean up, use chemical resistant one piece overall with integral hood. Chemical/oil resistant clothing.

Eyes: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Xylene, Mixture Of Isomers	150 ppm STEL 100 ppm TLV-TWA	100 ppm TWA 435 mg/m ³ TWA 150 ppm STEL 655 mg/m ³ STEL	900 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: Colorless

Odor: Aromatic.

pH Not Available.

Specific Gravity: 0.869 @ 15°C

Boiling Point: 136-145°C / 277-292°F

Freezing/Melting Point: -54°C / -65°F

Vapor Pressure: 0.8 kPa (6 mmHg) @ 20 °C/ 68 °F

Vapor Density: <1 @ 101 kPa

% Volatile by Volume: 100

Evaporation Rate: 0.85

Solubility: Negligible in water.

VOCs: 100%

Viscosity: 0.79 cSt (0.79 mm²/sec) @ 20 °C

Molecular Weight: 106 g/mole

Other: Pour point -95 °C / -139 °F

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur

Conditions to Avoid: Avoid excessive heat, open flames and all ignition sources.

Materials to Avoid: Strong oxidizing agents.

Hazardous Decomposition Products: Material does not decompose at ambient temperatures.

Additional Information:

10. STABILITY AND REACTIVITY

Xylene will attack some forms of plastics, rubber and coatings.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: May be slightly toxic. Ingestion of large amounts of xylene is likely to cause CNS effects such as dizziness, nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

Skin Contact: Causes moderate skin irritation. Skin irritation signs and symptoms may include a burning sensation, redness, swelling and blisters. May be absorbed through the skin.

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Eye Contact: Causes moderate eye irritation. Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision.

Additional Information: Long term exposure of xylene may cause nervous system effects with symptoms such as headaches, irritability, depression, insomnia, agitation, extreme tiredness, tremors, impaired concentration and short term memory. The blood platelet count may be reduced on exposure to xylene which is reversible when exposure is stopped. Repeated contact can produce dermatitis (dryness and cracking). Chronic inhalation exposure to xylene causes mid-frequency hearing loss in laboratory animals. Xylene reacts synergistically with n-hexane to enhance hearing loss. Reduced body weight was observed in male rats during one test. Very high exposure (confined spaces / abuse) to light hydrocarbons may result in abnormal heart rhythm (arrhythmias). Concurrent high stress levels and/or co-exposure to high levels of hydrocarbons (above occupational exposure limits), and to heart-stimulating substances like epinephrine, nasal decongestants, asthma drugs, or cardiovascular drugs may initiate arrhythmias.

Acute Test of Product:

Acute Oral LD50: Not Available.

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

Carcinogenicity:

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Xylene, Mixture Of Isomers	Group 3	A4

Carcinogenicity Comment: This product contains ethylbenzene. The International Agency for Research on Cancer has evaluated ethylbenzene and classified it as a possible human carcinogen (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Although abnormal sperm were observed after an interperitoneal injection in rats, xylene did not produce reproductive effects. An increase in menstrual disorders has been reported in women exposed to organic solvents but it is not possible to attribute this to xylene alone. Xylene has produced fetotoxic effects (delayed ossification and behavioral effects) in animals, in the absence of maternal toxicity. One study found that significant fetal effects at doses that did not cause high maternal toxicity included reduced fetal weight and increased incidence of malformed fetuses. In other studies where rats and mice were exposed by inhalation or ingestion, harmful effects in the offspring (teratogenicity, embryotoxicity and/or fetotoxicity) were either not observed or were observed in the presence of significant harmful effects in the mothers. There have been a few studies investigating the mutagenic potential of xylenes. These studies (induction of sister chromatid exchanges and chromosomal aberrations in human lymphocytes (white blood cells)) were negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity - Fish Species Data	Acute Crustaceans Toxicity:	Ecotoxicity - Freshwater Algae Data
Xylene, Mixture Of Isomers	13.1 - 16.5 mg/L LC50 (Lepomis macrochirus) 96 h flow-through 13.5 - 17.3 mg/L LC50 (Oncorhynchus mykiss) 96 h 2.661 - 4.093 mg/L LC50 (Oncorhynchus mykiss) 96 h static 23.53 - 29.97 mg/L LC50 (Pimephales promelas) 96 h static 30.26 - 40.75 mg/L LC50 (Poecilia reticulata) 96 h static 7.711 - 9.591 mg/L LC50 (Lepomis macrochirus) 96 h static 13.4 mg/L LC50 (Pimephales promelas) 96 h flow-through 19 mg/L LC50 (Lepomis macrochirus) 96 h 780 mg/L LC50 (Cyprinus carpio) 96 h semi-static	Not Available.	Not Available.

Other Information: Expected to be toxic to aquatic organisms. Not expected to demonstrate chronic toxicity to aquatic organisms. Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids. Material is readily biodegradable. Hydrolysis: Transformation due to hydrolysis not expected to be significant. Photolysis: Transformation due to photolysis not expected to be significant. Atmospheric Oxidation: Expected to degrade rapidly in air. Potential to bioaccumulate is low.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):

DOT Shipping Name: XYLENES

DOT Hazardous Class 3

DOT UN Number: UN1307

DOT Packing Group: III

DOT Reportable Quantity (lbs): 100

Note: No additional remark.

Marine Pollutant: No.

TDG (Canada):

TDG Shipping Name: XYLENES

Hazard Class: 3

UN Number: UN1307

Packing Group: III

Note: No additional remark.

14. TRANSPORT INFORMATION

Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

U.S. Regulatory Rules

Ingredients	CERCLA/SARA - Section 302:	SARA (311, 312) Hazard Class:	CERCLA/SARA - Section 313:
Xylene, Mixture Of Isomers	Not Listed.	Listed	Listed

California Proposition 65: Not Listed.

MA Right to Know List: Listed.

New Jersey Right-to-Know List: Listed.

Pennsylvania Right to Know List: Listed.

Additional Notes: Not Available.

WHMIS Hazardous Class:

B2 FLAMMABLE LIQUIDS

D2A VERY TOXIC MATERIALS

D2B TOXIC MATERIALS



16. OTHER INFORMATION

Additional Information:

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Disclaimer:

NOTICE TO READER:

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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*****END OF MSDS*****