



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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Richmond, BC
V6X 1W5

Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | Percentage (W/W) | LD50s and LC50s Route & Species: |
|---|------------------|--|
| Xylene, Mixture Of Isomers 1330-20-7 | 60-100 | 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.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: 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.

3. HAZARDS IDENTIFICATION

Inhalation: The main effect of inhaling xylene vapour 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. Neurobehavioural 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.

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: Flush affected skin with gently flowing water for 20-60 minutes and remove contaminated clothing while rinsing. Wash contaminated skin with mild soap and water for 15 minutes. Obtain medical attention immediately.

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If the affected person is not breathing, apply artificial respiration. 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. Administer artificial respiration if breathing has stopped. 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: 25 °C / 77 °F

Flash Point Method: Abel

Autoignition Temperature: 500°C / 932°F

Flammable Limits in Air (%): Lower: 1.1% Upper: 7%

Extinguishing Media: Dry chemical. Carbon dioxide. Foam. Water mist.

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 vapours. Containers exposed to intense heat from fires should be cooled with water to prevent vapour 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.

Hazardous Decomposition/Combustion Materials (under fire conditions): Carbon monoxide. Toxic fumes.

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: Restrict access to unprotected personnel. Wear appropriate protective equipment.

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

6. ACCIDENTAL RELEASE MEASURES

Procedure for Clean Up: Flammable liquid. Isolate spill and stop leak where safe. Restrict access to unprotected personnel. Remove ignition sources and work with non-sparking tools. Try to work upwind of spill. Handling equipment must be grounded. Dike area to prevent spill from spreading. For large spills, remove by mechanical means and place in appropriate containers for disposal. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal.

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. Product transfer - restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until pipe is submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapour accumulation. Bulk storage tanks should be diked. Vapours from tanks should not be released to atmosphere. For containers or container linings use mild steel or stainless steel. Avoid storage with incompatible materials.

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 exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. In case of spill or leak resulting in unknown concentration, use NIOSH approved supplied air respirator.

Gloves:

Impervious gloves. Viton gloves. Nitrile gloves.

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.

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.

| 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.

Colour: Colourless

Odour: Aromatic.

pH Not Available.

Specific Gravity: 0.872

Boiling Point: 138-142°C / 281-288°F

Freezing/Melting Point: -35°C / -31°F

Vapour Pressure: 1 kPa @ 20 °C/ 68 °F

Vapour Density: 3.7

% Volatile by Volume: 100

Evaporation Rate: 0.76 (ASTM D 3539)

9. PHYSICAL AND CHEMICAL PROPERTIES

Solubility: Water: 0.175 kg/m³

VOCs: 100%

Viscosity: 0.72 cST @ 25 °C

Molecular Weight: 106.16

Other: Not Available.

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: None.

Additional Information:

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.

Inhalation: The main effect of inhaling xylene vapour 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. Neurobehavioural 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.

Eye Contact: 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.

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 behavioural 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.

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| 12. ECOLOGICAL INFORMATION |
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Ecotoxicological Information:

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

Other Information:

Xylene Mobility : If product enters soil, it will be highly mobile and may contaminate groundwater. Floats on water.
 Persistence/degradability : Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air. Bioaccumulation : Does not bioaccumulate significantly. Other Adverse Effects : In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. 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 vapour) 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.

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.

Note: Not available.

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.

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