Material Safety Data Sheet

Mix Xylene

Section 1 - Chemical Product

MSDS Name: Mix Xylene

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
100-41-4	Ethylbenzene	10.00 - <= 30.00 %W	202-849-4
1330-20-7	Xylene, Mixed Isomer	75.00 - 80.00	215-535-7

Section 3 - Hazards Identification

Health Hazards : Harmful by inhalation and in contact with skin. Vapours may cause drowsiness and dizziness. Slightly irritating to respiratory system. Irritating to skin. Moderately irritating to eyes. Harmful: may cause lung damage if swallowed. Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s): Central nervous system (CNS). Auditory system.

Signs and Symptoms : Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headed ness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Auditory system effects may include temporary hearing loss and/or ringing in the ears.

Aggravated Medical : Pre-existing medical conditions of the following organ(s) or Condition organ system(s) may be aggravated by exposure to this material: Central nervous system (CNS). Skin. Auditory system. Eyes. Peripheral nervous system. Respiratory system.

Safety Hazards : Highly flammable. In use, may form flammable/explosive vapour-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

Environmental Hazards : Toxic to aquatic organisms.

Section 4 - First Aid Measures

General Information : Keep victim calm. Obtain medical treatment immediately. Inhalation : DO NOT DELAY. Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment

Skin Contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

Ingestion : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

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Specific Hazards :The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolved if incomplete combustion occurs.

Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing :Do not use water in a jet.

Protective Equipment for : Wear full protective clothing and self-contained breathing apparatus

Firefighters Additional Advice : Keep adjacent containers cool by spraying with water.

Section 5 - Fire Fighting Measures

Section 6 - Accidental Release Measures

Observe all relevant local and international regulations. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal.

Protective measures : Isolate hazard area and deny entry to necessary or unprotected personnel. Stay upwind and keep out of low areas. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.

Clean Up Methods : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional Advice : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air.

Section 7 - Handling and Storage

General Precautions : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Handling Temperature: Ambient.

Storage : Bulk storage tanks should be diked (bunded). Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Storage Temperature: Ambient.

Product Transfer : Electrostatic charges may be generated during pumping. ctrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.

Recommended Materials : For containers, or container linings use mild steel, stainless steel.

Unsuitable Materials : Natural, butyl, neoprene or nitrile rubbers. Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Additional Information : Ensure that all local regulations regarding handling and storage facilities are followed.

Section 8 - Exposure Controls, Personal Protection

Hazard Designation Confirmed animal carcinogen with unknown elevance to humans. Not classifiable as a human carcinogen.

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use

Personal Protective : Personal protective equipment (PPE) should meet Equipment recommended national standards. Check with PPE suppliers.

Respiratory Protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection quipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN141. Where respiratory protective equipment is required, use a full-face mask. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus

Hand Protection : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash

protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key

element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection : Chemical splash goggles (chemical monogoggles). Approved to EU Standard EN166, AS/NZS:1337. Chemical splash goggles (chemical monogoggles).

Protective Clothing : Chemical resistant gloves/gauntlets, boots, and apron. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood.

Monitoring Methods : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.

Environmental Exposure : Local guidelines on emission limits for volatile substances must Controls be observed for the discharge of exhaust air containing vapour.

Section 9 - Physical and Chemical Properties

Appearance : Colourless Liquid.

Odour : Aromatic

Odour threshold : 0.27 ppm

Boiling point : Typical 136 - 145 °C / 277 - 293 °F

Melting / freezing point : > -48 °C / -54 °F

Flash point : Typical 23 - 27 °C / 73 - 81 °F(Abel)

Explosion / Flammability : 1 - 7.1 %(V)

limits in air Auto-ignition temperature : 432 - 530 °C / 810 - 986 °F(ASTM E-659)

Vapour pressure : Typical 4.5 kPa at 50 °C / 122 °F

Typical 0.8 - 1.2 kPa at 20 °C / 68 °F

Typical 0.2 kPa at 0 °C / 32 °F

Density : Typical 870 kg/m3 at 15 °C / 59 °F(ASTM D-1298)

Water solubility : 0.175 kg/m3 : Miscible. : 3.12 - 3.2

Solubility in other solvents : < 0.9 mm2/s at 20 °C / 68 °F n-octanol/water partition coefficient (log Pow)

Kinematic viscosity Vapour density :(air=1)

Dielectric constant : 3.7

Evaporation rate (nBuAc=1) : 13.5 (DIN 53170, di-ethyl ether=1) 0.76 (ASTM D 3539, nBuAc=1)

Surface tension : Typical 28.7 mN/m at 20 °C / 68 °F(ASTM D971)

Molecular weight : 106 g/mol

Section 10 - Stability and Reactivity

Stability : Stable under normal conditions of use. Reacts violently with strong oxidising agents.

Conditions to Avoid : Avoid heat, sparks, open flames and other ignition sources.

Materials to Avoid Prevent vapour accumulation.

Hazardous : Strong oxidising agents.

Decomposition Products : Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Section 11 - Toxicological Information

Basis for Assessment : Information given is based on product testing.

Acute Oral Toxicity : Low toxicity: LD50 >2000 mg/kg , Rat Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Acute Dermal Toxicity : Low toxicity: LD50 >2000 mg/kg Classified as harmful under EC criteria. , Rabbit

Acute Inhalation Toxicity : Low toxicity: LC50 >20 mg/l / 4 hours, Rat Classified as harmful under EC criteria. High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Skin Irritation : Irritating to skin.

Eye Irritation : Moderately irritating to eyes (but insufficient to classify).

Respiratory Irritation : Inhalation of vapours or mists may cause irritation to the respiratory system.

Sensitisation : Not expected to be a skin sensitiser. nervous system. Effects were seen at high doses only. Auditory system: prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss.

Mutagenicity : Not mutagenic.

Carcinogenicity : An increased tumour incidence has been observed in Central nervous system.

Repeated Dose Toxicity : repeated exposure affects the experimental ; the significance of this finding to man is unknown. (Ethylbenzene)

Reproductive and : Does not impair fertility.

Developmental Toxicity : Causes for toxicity in animals at doses which are maternally toxic.

Additional Information : Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

Section 12 - Ecological Information

Acute Toxicity Fish : Toxic: 1 < LC/EC/IC50 <= 10 mg/l

Aquatic Invertebrates : Toxic: 1 < LC/EC/IC50 <= 10 mg/l

Algae : Toxic: 1 < LC/EC/IC50 <= 10 mg/l

Microorganisms : Data not available.

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.

Section 13 - Disposal Considerations

Material Disposal : 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. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.

Container Disposal : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer

Local Legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14 - Transport Information

UN 1307 XYLENES Class / Division 3Packin

g group III

Marine pollutant: No

IATA (Country variations may apply)

UN No. : 1307

Proper shipping name : Xylenes

Class / Division : 3

Packing group : III

Section 15 - Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Label Name : XYLENE. EC

label/EC Number : 215-535-7 EC

Classification : Flammable. Harmful.

EC Annex I Number : 601-022-00-9

EC Symbols : Xn Harmful.

EC Risk Phrases : R10 Flammable. R20/21 Harmful by inhalation and in contact with skin. R38 Irritating to skin.

EC Safety Phrases : S25 Avoid contact with eyes

. AICS : Listed

. DSL : Listed.

INV (CN) : Listed.

ENCS (JP) : Listed (3)-3

TSCA : Listed.

EINECS : Listed. 215-535-7

KECI (KR) : Listed. 97-1-275

KECI (KR) : Listed. KE-35427