



MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	UNIAROM® XYLENE IF	
SYNONYM	Mixed Xylenes	
CHEMICAL FAMILY	Aromatic Hydrocarbon	
COMPANY IDENTIFICATION	UniSource Energy, Inc. 245 W. Roosevelt Road, Building 14, Suite 145 West Chicago, IL 60185 Phone: 630-231-7990 Fax: 630-231-8036	
EMERGENCY TELEPHONE NUMBERS	UniSource Energy, Inc. 1-800-444-5510	CHEMTREC 1-800-424-9300

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

CAS Number	Material or Component	% By Weight
1330-20-7	XYLENE ISOMERS	>80
100-41-4	ETHYLBENZENE	20.01 – 20.1
108-88-3	TOLUENE	<0.5

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

FLAMMABLE LIQUID AND VAPOR
 VAPOR MAY CAUSE FLASH FIRE
 CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
 MAY BE HARMFUL IF INHALED.
 MAY BE HARMFUL OR FATAL IF SWALLOWED.
 ASPIRATION HAZARD IF SWALLOWED – CAN ENTER LUNGS AND CAUSE DAMAGE.
 CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, CENTRAL NERVOUS SYSTEM, DIGESTIVE SYSTEM, RESPIRATORY TRACT, SKIN, EYES. BLOOD, KIDNEYS, LIVER.
 CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

ROUTES OF ENTRY: Absorbed through dermal contact, eye contact, inhalation, ingestion.

POTENTIAL ACUTE HEALTH EFFECTS

Eyes: Irritation from vapors. Splash accidents have produced transient, superficial injury to the eye.
Skin: May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation, cracking or dermatitis.
Inhalation: Breathing high concentrations can cause respiratory tract irritation, nausea, headaches, excitation, euphoria, drowsiness, dizziness, light-headedness, blurred vision, fatigue, incoordination, tremors, convulsions, coma, respiratory arrest, and other central nervous system effects. Severe exposure may cause death.
Ingestion: May cause irritation of mouth, throat, and gastrointestinal tract. If swallowed, aspiration into lungs may result in chemical pneumonitis and severe pulmonary injury.

POTENTIAL CHRONIC HEALTH EFFECTS

Carcinogenic Effects

XYLENE

Classified A4 (Not classifiable for humans or animals) by ACGIH

Classified 3 (Not classifiable for humans) by IARC

ETHYLBENZENE

Classified None by OSHA

Classified A3 (Possibly carcinogenic to animals) by ACGIH

Classified 2b (Possibly carcinogenic to humans) by IARC



MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE

Repeated exposure to a highly toxic material may produce deterioration of health by an accumulation in one or many human organs.

OVEREXPOSURE/SIGNS/SYMPTOMS

Effects of chronic exposure to xylene are similar to those of acute exposure, but may be more severe. Headache, tremors, apprehension, memory loss, weakness, dizziness, loss of appetite, nausea, ringing in the ears, irritability, thirst, anemia, mucosal bleeding, enlarged liver, and hyperplasia are reported when chronic inhalation of xylenes has occurred. Repeated contact with the skin can cause defatting dermatitis. Reversible eye damage, including vacuoles in the cornea and conjunctiva, has occurred with chronic xylene exposure.

(See Toxicological Information – Section 11)

SECTION 4 FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water while holding eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. If irritation occurs, get immediate medical attention.

SKIN CONTACT: Wash contact areas immediately with soap and water. Remove contaminated clothing and place in closed container for storage until laundered or discarded. Thoroughly clean contaminated clothing before reuse.

INHALATION: Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.

INGESTION: DO NOT induce vomiting; aspiration into lungs may cause chemical pneumonia and severe lung damage. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Seek immediate medical attention.

NOTES TO PHYSICIAN: Since there is potential for rapid onsets of CNS depression or seizures with possible aspiration of gastric contents, EMESIS SHOULD NOT BE INDUCED. Soon after exposure, cautious gastric lavage followed by administration of activated charcoal may be beneficial to the patient.

SECTION 5 FIRE FIGHTING MEASURES

FLAMMABILITY CLASS: Flammable

FLASH POINT: Closed Cup: 25°C (77°F) (Tagliabue)

AUTO-IGNITION TEMPERATURE: 527°C (980.6°F)

FLAMMABLE LIMITS: LOWER: 1.1% UPPER: 7%

PRODUCTS OF COMBUSTION: May produce incomplete combustion products (CO, CO₂).

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES

Extremely flammable in presence of heat, open flames and sparks

EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES

Possible risk of explosion of the product in presence of static discharge or extreme heat.

Violent explosion may occur when chlorinating xylene with materials producing immediate self accelerating decomposition. May explode if ignited in an enclosed area. Flashback along vapor trail may occur.

EXTINGUISHING MEDIA

Use water fog or spray, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

FIRE FIGHTING INSTRUCTIONS

Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Use water spray to cool fire exposed surfaces and to protect personnel.

Small Fire: Use DRY chemical powder, halon, and CO₂.

Large Fire: Use water spray, fog or foam. DO NOT use water jet.

PROTECTIVE CLOTHING (FIRE)

Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear (Bunker gear).

NFPA HAZARD ID

Health: 2 Fire Hazard: 3 Reactivity: 0 Special Notice: None

HMIS HAZARD ID

Health: 2 Flammability: 3 Physical Hazard : 0

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. Report



spills to local authorities and/or the National Response Center at (800) 424-8802 as appropriate or required.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding area. Eliminate all (potential) sources of ignition in the vicinity of the spill or released vapor. Handling equipment must be grounded to prevent sparking.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if it can be done without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. 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.

Water Spill: Stop leak if it can be done without risk. Confine the spill immediately with booms. Warn other vessels. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Flammable liquid, insoluble in water. Contain spill and safely stop the flow, warning personnel to stay away. Eliminate all sources of ignition and ventilate. Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas. Water spray may reduce vapor, but may not prevent ignition in closed spaces. Recover with appropriate pumping equipment or with suitable absorbent.

Small Spills: Absorb with an inert material such as clay or sand. Place in appropriate non-leaking container. Seal tightly for proper disposal.

Note: Local regulations may prescribe or limit action to be taken.

SECTION 7

HANDLING AND STORAGE

HANDLING

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Keep away from incompatibles such as oxidizing agents. DO NOT ingest. Do not breathe gas, fumes, vapor, or spray. Do not eat, drink or smoke in areas of use or storage. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately, showing them the container or the label. Avoid contact with skin and eyes. Use good personal hygiene practices. Wash thoroughly after handling this product.

STORAGE

Combustible materials should be stored in a separate labeled safety storage cabinet or room. Keep away from heat and all possible sources of ignition. Keep container tightly closed and dry. Keep in a cool and well-ventilated area. Ground all equipment containing material. Empty containers may contain material residue; do not reuse without adequate precautions. Do not eat, drink or smoke in areas of use or storage. All efforts should be made to prevent any leaks or spills. Storage tanks containing this product should be engineered to prevent contact with water resources, as this material could contaminate the water resources. Surface spills can reach groundwater through porous soil or cracked surfaces. The storage tanks should be monitored regularly for leaks. Where spills or leaks are possible, a comprehensive response plan should be developed and implemented.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

PERSONAL PROTECTION

Eyes: Splash goggles. Safety glasses with side shields.

Body: Flame retardant clothing covering the entire body.

Respiratory: Use a MSHA/NIOSH approved respirator or equivalent at high concentrations.

Hands: Chemical resistant gloves if contact is possible.

Feet: Safety slip-proof shoes in areas where spills or leaks can occur.

PROTECTIVE CLOTHING

Splash goggles, Full suit, Vapor respirator, Boots, Gloves.

A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**THRESHOLD LIMIT VALUE**

The best practice is to maintain concentrations of all atmospheric contaminants as low as practical using engineering controls and work rules. Appropriate personal protective equipment may be used for additional protection of the worker from exposure. For application of TLV's or PEL's consult an industrial hygienist.

Material or Component	Exposure Limits
XYLENE ISOMERS	ACGIH TLV (US, 1/09) STEL: 150 ppm 15 minutes TWA: 100 ppm 8 hours OSHA PEL 1989 (US, 11/06) TWA: 100 ppm 8 hours
ETHYLBENZENE	ACGIH TLV (US, 1/09) TWA: 100 ppm 8 hours OSHA PEL 1989 (US, 11/06) TWA: 100 ppm 8 hours
TOLUENE	ACGIH TLV (US, 1/09) TWA: 20 ppm 8 hours OSHA PEL Z2 (US, 11/06) TWA: 200 ppm 8 hours AMP: 500 ppm 10 minutes CEIL: 300 ppm

Consult local authorities for acceptable exposure limits.

SECTION 9**PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL STATE AND APPEARANCE: Liquid
ODOR: Sweet aromatic
COLOR: Clear, colorless
BOILING/CONDENSATION PT: 138.89°C (282°F)
MELTING/FREEZING PT: -47.4°C (-53.3°F)
SPECIFIC GRAVITY: 0.87 (Water=1)
VAPOR PRESSURE: 8 mm Hg @ 25°C
VAPOR DENSITY: 3.61 (weighted average) (Air=1)
VOLATILITY: 100% (v/v)
EVAPORATION RATE: 9.2 compared to Ether (anhydrous)
VOC: 100%
SOLUBILITY IN WATER: Negligible

SECTION 10**STABILITY AND REACTIVITY**

STABILITY AND REACTIVITY: The product is stable under normal conditions.
CONDITIONS TO AVOID: No additional remark
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Extremely reactive/ incompatible with acids and oxidizing agents. Violent explosion may occur when chlorinating xylene with 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorohydrantoin). The haloimide undergoes immediate self accelerating decomposition.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides (COx) and soot
HAZARDOUS POLYMERIZATION: No

SECTION 11**TOXICOLOGICAL INFORMATION**

ROUTES OF EXPOSURE: Inhalation, ingestion, skin, eye contact.

TOXICITY TO ANIMALS

XYLENE
 LD50 (Oral): 4300 mg/kg [Rat]
 LD50 (Dermal): > 1700 mg/kg [Rabbit]
 ETHYLBENZENE
 LD50 (Oral): 3500 mg/kg [Rat]
 LD50 (Dermal): > 5000 mg/kg [Rabbit]

**CHRONIC EFFECTS ON HUMANS****Carcinogenic Effects**

XYLENE

Classified A4 (Not classifiable for humans or animals) by ACGIH

Classified 3 (Not classifiable for humans) by IARC

ETHYLBENZENE

Classified None by OSHA

Classified A3 (Possibly carcinogenic to animals) by ACGIH

Classified 2b (Possibly carcinogenic to humans) by IARC

TOLUENE

Classified None by OSHA

Classified A4 (Not classifiable for humans or animals) by ACGIH

Classified 3 (Not classifiable for humans) by IARC

OTHER TOXIC EFFECTS ON HUMANS

Very hazardous in case of ingestion or inhalation.

Hazardous in case of skin or eye contact

Possible cardiac and dermal sensitizer

(See Section 3 – Hazards Identification)

SECTION 12**ECOLOGICAL INFORMATION****ECOTOXICITY:** Results are available upon request.**MOBILITY:** The half-lives in a model river and model lake are 3 and 99 hrs, respectively.

The half-life in the vapor phase within the atmosphere is 1-2 days due to degradation by photochemically-produced hydroxyl radicals. Xylene has moderate to high mobility in soils.

BIODEGRADATION: Constituents are expected to biodegrade in soil and ground water.**SECTION 13****DISPOSAL CONSIDERATIONS****WASTE DISPOSAL**

Disposal can occur only in properly permitted facilities in accordance with federal, state, and local regulations.

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete. This material, when discarded or disposed of, may be a hazardous waste according to Federal Regulations (40 CFR 261). Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the material to characterize and determine, at the time of disposal, whether the material is a hazardous waste subject. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authorities.

Consult your local or regional authorities.**SECTION 14****TRANSPORT INFORMATION****U.S. DOT CLASSIFICATION FOR BULK SHIPMENTS****Proper Shipping Name:** UN1993, Flammable Liquids, n.o.s., 3, PG III, RQ (xylene isomers, ethylbenzenes)**Hazard Class & Division:** DOT Class 3: Flammable Liquid**UN/NA Number:** UN 1993**Packing Group:** III**USCG PROPER SHIPPING NAME:** Xylenes, Ethylbenzene mixture**MARINE POLLUTANT:** Not listed in Appendix B to 49 CFR 172.101**HAZARDOUS SUBSTANCES REPORTABLE QUANTITY:** XYLENE ISOMERS: 100 LBS (45.4 KG)

ETHYLBENZENE: 1000 LBS (454 KG)

SPECIAL PROVISIONS FOR TRANSPORT: See codes as shown in 49 CFR 172.101 Column 7.**TDG CLASSIFICATION:** TDG Class 3: Flammable liquid

TDG Class 9.2: Environmentally hazardous material

ADR/RID CLASSIFICATION: ADR Class 3: Flammable liquid A**IMO/IMDG CLASSIFICATION:** IMDG Class 3.1: Flammable liquid (low flash point)**ICAO/IATA CLASSIFICATION:** IATA Class 3: Flammable liquid

**SECTION 15****REGULATORY INFORMATION****HCS CLASSIFICATION**

HCS Class: Flammable liquid having a flash point lower than 37.8°C (100°F)
Target organ effects

U.S. FEDERAL REGULATIONS

TSCA: TSCA 4(a) final test rules: p-XYLENE
TSCA 8(a) chemical risk rules: p-XYLENE
TSCA 8(a) PAIR: XYLENE
TSCA 8(b) inventory: All components are listed or exempted.
TSCA 8(d) H and S data reporting: p-XYLENE
TSCA 12(b) one-time export: p-XYLENE

SARA 301/302/303

No chemicals in this product are listed as extremely hazardous substances in 40 CFR 355, Emergency Planning and Notification (Appendix A to Part 355).

SARA 304

The following chemicals in this product require reporting under the requirements of 40 CFR 355, Emergency Planning and Notification (SARA Extremely Hazardous Substances listed in Appendix A to Part 355 or CERCLA Hazardous Substances listed in Table 302.4 of 40 CFR Part 302):

XYLENE ISOMERS, ETHYLBENZENE

SARA 311/312

The following chemicals in this product require reporting under the requirements of 40 CFR 370, Hazardous Chemical Reporting: Community Right-To-Know. The hazard category for each chemical is also listed.

Chemical Name	Immediate Hazard	Delayed Hazard	Fire Hazard	Pressure Hazard	Reactivity Hazard
XYLENE	X	X	X	-	-
ETHYLBENZENE	X	X	X	-	-

Specific state and local regulations should be consulted to determine if there are any additional requirements. Because many states and localities have added requirements or incorporated the Federal contents in their own forms, Tier I & II should be obtained from the State Emergency Response Commission (SERC).

SARA 313 SUPPLIER NOTIFICATION

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372 – Table 372.65):

Product Name	CAS Number	Concentration (%)
XYLENE	1330-20-7	> 80
ETHYLBENZENE	100-41-4	< 20

CLEAN WATER ACT (CWA)

CWA 307: ETHYLBENZENE, TOLUENE
CWA 311: XYLENE

CLEAN AIR ACT (CAA) 112

Accidental Release Prevention: No products were found
Regulated Flammable Substances: No products were found
Regulated Toxic Substances: No products were found



INTERNATIONAL REGULATIONS

CANADA

WHMIS: Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F)

CEPA Toxic Substances: None of the components are listed.

Canadian ARET: None of the components are listed.

Canadian NPRI: The following component is listed: XYLENE

Alberta Designated Substances: None of the components are listed.

Ontario Designated Substances: None of the components are listed.

Quebec Designated Substances: None of the components are listed.

EUROPE

EINECS: 215-535-7

DSCL (EEC): R10 – Flammable

R27 – Very toxic in contact with skin

R41 – Risk of serious damage to eyes

R37/38 – Irritating to respiratory system and skin

INTERNATIONAL INVENTORY LISTS

Australia Inventory (AICS): All components are listed or exempted.

China Inventory (IECSC): All components are listed or exempted.

Japan Inventory (ENCs/ISHL): Not determined

Korea Inventory (KECI): All components are listed or exempted.

New Zealand Inventory (NZIoC): All components are listed or exempted.

Philippines Inventory (PICCS): All components are listed or exempted.

STATE REGULATIONS

California Prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: ETHYLBENZENE, TOLUENE

The following components are listed as hazardous substances by some states in the U.S.:

XYLENE ISOMERS, ETHYLBENZENE

Please consult with local state agencies for regulatory compliance.

Additional information is available upon request.

SECTION 16

OTHER INFORMATION

REVISIONS

This Material Safety Data Sheet (MSDS) has been created to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998).

Sections 2, 8, 11, 12, 15 – Updated Exposure limits, component %, Regulatory, Ecological information

DATE PREPARED: OCTOBER 2009

UNIAROM® XYLENE IF

The information presented herein has been compiled from sources considered to be dependable and is accurate as of the date of preparation of this Material Safety Data Sheet. However, Seller does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. In addition, no responsibility can be assumed by the Seller for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the material. Seller assumes no responsibility for injury to Buyer or to third persons or any damage to any property. Buyer assumes all such risks.