



MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME UNIAROM® XYLENE AV

SYNONYM Mixed Xylene

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. CHEMTREC
1-800-444-5510 1-800-424-9300

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

CAS Number	Material or Component	% By Weight
1330-20-7	XYLENE (O, M, P ISOMERS)	60 - 95
100-41-4	ETHYLBENZENE	2 - 35
Mixture	HEXANE (OTHER ISOMERS)	1 - 4

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
ASPIRATION HAZARD.
CANCER HAZARD: CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, BONE MARROW, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

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

POTENTIAL ACUTE HEALTH EFFECTS

Eyes: May cause severe irritation, redness, tearing, blurred vision and conjunctivitis.
Skin: Prolonged or repeated contact may cause moderate irritation, defatting (cracking), redness, itching, inflammation, dermatitis and possible secondary infection. High pressure skin injections are SERIOUS MEDICAL EMERGENCIES. Injury may not appear serious at first. Within a few hours, tissues will become swollen, discolored and extremely painful.
Inhalation: Long term exposure and/or breathing high concentrations of vapors can cause nasal and respiratory tract irritation, nausea, headaches, excitation, euphoria, drowsiness, dizziness, light-headedness, blurred vision, fatigue, incoordination, tremors, convulsions, coma, respiratory arrest, anemia, irregular heart rhythm 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

Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

XYLENE

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

Classified 3 (Not classifiable for humans) by IARC

**ETHYLBENZENE**

Classified A3 (Possibly carcinogenic to animals) by ACGIH

Classified 2B (Possibly carcinogenic to humans) by IARC

TOLUENE

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

Classified 3 (Not classifiable for humans) by IARC

BENZENE

Classified A1 (Confirmed for humans) by ACGIH

Classified 1 (Proven for humans) by IARC & European Union

Classified 1 (Known to be human carcinogens) by NTP

Classified + (Proven) by OSHA & NIOSH

Target Organs

Causes damage to the following organs: blood, kidneys, liver, gastrointestinal tract, skin, eyes and central nervous system.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE

Preexisting conditions and disorders may be aggravated by exposure to this product.

OVEREXPOSURE/SIGNS/SYMPTOMS

Long term exposure and/or breathing high concentrations of vapors can cause nasal and respiratory tract irritation, nausea, headaches, excitation, euphoria, drowsiness, dizziness, light-headedness, blurred vision, fatigue, incoordination, tremors, convulsions, coma, respiratory arrest, anemia, irregular heart rhythm and other central nervous system effects. Severe exposure may cause death.

(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. High pressure skin injections are **SERIOUS MEDICAL EMERGENCIES**. Get immediate medical attention.

INHALATION: Allow the victim to rest in a well-ventilated area. If breathing is difficult, ensure clear airway and administer oxygen. If not breathing, apply artificial respiration or CPR. 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: In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption. Consideration should be given to the use of an intratracheal tube to prevent aspiration. Irregular heart beat may occur; use of adrenalin is not advisable. Individuals intoxicated by the product should be hospitalized immediately, with acute and continuing attention to neurological and cardiopulmonary function. Positive pressure ventilation may be necessary. After the initial episode, individuals should be monitored for changes in blood variables and the delayed appearance of pulmonary edema and chemical pneumonitis. Such patients should be monitored for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired and recovery from inhalation exposure may be complicated. In case of skin injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.

SECTION 5**FIRE FIGHTING MEASURES**

FLAMMABILITY CLASS: Flammable

FLASH POINT: Closed Cup: 26.85 to 31.85°C (80.3 to 89.3°F)

AUTO-IGNITION TEMPERATURE: 463.3 to 528.9°C (865.9 to 984°F)

FLAMMABLE LIMITS: LOWER: 1% UPPER: 7%

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

FIRE AND EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES

Flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition (pilot lights, welding equipment, electrical equipment, etc.) and flash back. Runoff to sewer may create fire or explosion hazard. Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Flowing product can be ignited by self generated static electricity.

**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: 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
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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 (O, M, P ISOMERS)	ACGIH TLV (US, 5/04) STEL: 150 ppm 15 minutes TWA: 100 ppm 8 hours OSHA PEL (US, 6/93) TWA: 100 ppm 8 hours
ETHYLBENZENE	ACGIH TLV (US, 1/04) & NIOSH REL (US, 6/01) TWA: 100 ppm 8 hours STEL: 125 ppm 15 minutes OSHA PEL 1989 (US, 1993) TWA: 100 ppm 8 hours
HEXANE (OTHER ISOMERS)	ACGIH TLV (US, 9/04) STEL: 1000 ppm 15 minutes TWA: 500 ppm 8 hours NIOSHA REL (US, 6/01) CEIL: 510 ppm 15 minutes

Consult local authorities for acceptable exposure limits.

SECTION 9	PHYSICAL AND CHEMICAL PROPERTIES
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PHYSICAL STATE AND APPEARANCE: Liquid

ODOR: Aromatic (like benzene, characteristic aromatic)

COLOR: Colorless

BOILING/CONDENSATION PT: 138.85°C (281.9°F)

MELTING/FREEZING PT: -26.15°C (-15.1°F)

SPECIFIC GRAVITY: 0.861 (Water=1)

VAPOR PRESSURE: 8 mm Hg @ 25°C

VAPOR DENSITY: 3.7 (weighted average) (Air=1)

VOLATILITY: 100% (v/v)

EVAPORATION RATE: 0.779.2 compared to Butyl acetate

VOC: 100%

SOLUBILITY IN WATER: Very slightly soluble in cold water

SECTION 10	STABILITY AND REACTIVITY
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STABILITY AND REACTIVITY: The product is stable under normal conditions.



INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Extremely reactive/ incompatible with acids, oxidizing agents, reducing agents and alkalis

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides (COx)

HAZARDOUS POLYMERIZATION: No

SECTION 11 TOXICOLOGICAL INFORMATION

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

TOXICITY TO ANIMALS

XYLENE (o, m, p isomers):

LD50 (oral): 4300 mg/kg [Rat]

2119 mg/kg [Mouse]

LD50 (dermal): > 1700 mg/kg [Rabbit]

ETHYLBENZENE:

LD50 (oral): 3500 mg/kg [Rat]

CHRONIC EFFECTS ON HUMANS

Carcinogenic Effects

Contains material which may cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure.

XYLENE

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

Classified 3 (Not classifiable for humans) by IARC

ETHYLBENZENE

Classified A3 (Possibly carcinogenic to animals) by ACGIH

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Classified 1 (Proven for humans) by IARC & European Union

Classified 1 (Known to be human carcinogens) by NTP

Classified + (Proven) by OSHA & NIOSH

Target Organs

Causes damage to the following organs: blood, kidneys, liver, gastrointestinal tract, skin, eyes and central nervous system.

OTHER TOXIC EFFECTS ON HUMANS

Hazardous in case of skin contact

TOXICOLOGICAL DATA

XYLENE, ETHYLBENZENE, HEXANE: Exposure to these materials can cause harm or serious damage to the eyes, skin, blood, lungs, spleen, heart, adrenal system, nervous system, digestive system, nose and throat. Cancer studies have been performed on laboratory animals showing serious effects on most body functions when exposed to high concentrations. Additional information is available upon request.

(See Section 3 – Hazards Identification)

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

XYLENE:

3.3 mg/l- 8.2 mg/l LC50 96 hrs [Fish (Oncorhynchus mykiss)]

8.6 mg/l - 12 mg/l- 13.3 mg/l LC50 96 hrs [Fish (Lepomis macrochirus)]

13.4 mg/l LC50 96 hrs [Fish (Pimephales promelas)]

ETHYLBENZENE:

2.93 – 2.97 mg/l EC50 48 hrs [Daphnia magna]

7.2 mg/l EC50 48 hrs [Selenastrum capricornutum]

4.2 mg/l LC50 96 hrs [Oncorhynchus mykiss]

9.09 mg/l LC50 96 hrs [Pimephales promelas]

9.6 mg/l LC50 96 hrs [Poecilia reticulata]

BIODEGRADATION: The products of degradation are less toxic than the product itself.

**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.

TRANSPORT INFORMATION**SECTION 14****U.S. DOT CLASSIFICATION FOR BULK SHIPMENTS**

Proper Shipping Name: UN1307, Xylenes, 3, PG II, RQ (xylene)

Hazard Class & Division: DOT Class 3: Flammable Liquid

UN/NA Number: UN 1307

Packing Group: II

SECTION 15**REGULATORY INFORMATION****U.S. FEDERAL REGULATIONS**

TSCA: TSCA 4(a) final test rules: HEXANE (Other isomers)

TSCA 8(b) inventory: XYLENE (o, m, p isomers), ETHYLBENZENE, HEXANE (other isomers)

SARA 302/304/311/312

No chemicals in this product are listed as extremely hazardous substances

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	-	-
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	60-95
ETHYLBENZENE	100-41-4	2-35

CLEAN WATER ACT (CWA)

CWA 307: ETHYLBENZENE

CWA 311: XYLENE (o,m,p isomers), ETHYLBENZENE

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)

Class D-2A: Material causing other toxic effects (Very toxic)

Class D 2B: Material causing other toxic effects (Toxic)

CEPA Toxic Substances: All of the components are listed.**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, BENZENE,**The following components are listed as hazardous substances by some states in the U.S.:**

XYLENE ISOMERS, ETHYLBENZENE, HEXANE (other isomers)

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).

LABEL REQUIREMENTS

FLAMMABLE LIQUID AND VAPOR.

VAPOR MAY CAUSE FLASH FIRE.

MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.

MAY BE HARMFUL IF INHALED.

ASPIRATION HAZARD.

CANCER HAZARD: CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, BONE MARROW, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

DATE PREPARED: APRIL 2009**UNIAROM® XYLENE AV**

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