



Material Safety Data Sheet

MSDS ID NO.: 0158MAR019
Revision date: 12/14/2010

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Xylene
Synonym: Xylene; Mixed Xylenes, Dimethyl Benzene; Methyl Toluene
Chemical Family: Aromatic Hydrocarbon
Formula: C₆H₄(CH₃)₂

Formula:

Manufacturer:
Marathon Petroleum Company LP
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Xylene is an mixture of C₈ aromatic petroleum hydrocarbons composed of the three isomers of xylene (ortho, meta & para) and ethylbenzene. Contains trace amounts of toluene, C₉ hydrocarbons and benzene (<50 ppm).

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Xylene	1330-20-7	100	100 ppm TWA 150 ppm STEL	= 100 ppm TWA = 435 mg/m ³ TWA = 150 ppm STEL = 655 mg/m ³ STEL	

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Xylene	1330-20-7	85	100 ppm TWA 150 ppm STEL	= 100 ppm TWA = 435 mg/m ³ TWA = 150 ppm STEL = 655 mg/m ³ STEL	
Ethyl Benzene	100-41-4	15	100 ppm TWA 125 ppm STEL	= 100 ppm TWA = 435 mg/m ³ TWA = 125 ppm STEL = 545 mg/m ³ STEL	

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING!

FUMES MAY CAUSE EYE AND RESPIRATORY IRRITATION.
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL
POTENTIAL REPRODUCTIVE HAZARD
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION
MATERIAL MAY ACCUMULATE STATIC CHARGE

STABLE

Inhalation:

Breathing high concentrations may be harmful.
May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.
Breathing high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death. See Toxicological Effects (Section 11) for more information.

Ingestion:

Swallowing this material may be harmful.
May cause irritation of the mouth, throat and gastrointestinal tract.
May cause central nervous system depression or effects. Symptoms may include salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Skin contact:

Contact may cause reddening, itching and inflammation.
Skin contact may cause harmful effects in other parts of the body.

Eye contact:

Contact may cause pain and severe reddening and inflammation of the conjunctiva.
Effects may become more serious with repeated or prolonged contact.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Xylene 1330-20-7	NE	male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	

Notes:

The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for the carcinogenicity of xylene in either humans or animals (Group 3).

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Xylene 1330-20-7		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	
Ethyl Benzene 100-41-4	Monograph 77 [2000]	male rat-clear evidence; female rat-some evidence; male mice-some evidence; female mice-some evidence	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Present

Notes: The International Agency for Research on Cancer (IARC) has concluded that ethyl benzene is possibly carcinogenic to humans (Group 2B).

4. FIRST AID MEASURES

Eye Contact:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties.

Ingestion:

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

NOTES TO PHYSICIAN:

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

Medical Conditions Aggravated By Exposure:

respiratory system, auditory system, skin, liver,

5. FIRE FIGHTING MEASURES

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Suitable extinguishing media:	For small fires, Class B fire extinguishing media such as CO ₂ , dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.
Specific hazards:	This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 130.
Special protective equipment for firefighters:	Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.
Flash point:	86-93 F
Autoignition temperature:	867-984 F
Flammable limits in air - lower (%):	1.1
Flammable limits in air - upper (%):	7.0
NFPA rating:	
Health: 2	
Flammability: 3	
Instability: 1	
Other: -	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.
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7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Never siphon this product by mouth. Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
Respiratory protection:	Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the TWA or STEL. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134.
Skin and body protection:	Viton gloves should be used to prevent skin contact.
Eye protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
Hygiene measures:	Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Colorless
Odor:	Sweet Aromatic
Molecular weight:	106.1
pH:	Neutral
Boiling point/range (5-95%):	280-291 F
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.86 @ 60 F
Density:	7.2 lbs/ gal
Bulk density:	No data available.
Vapor density:	3.7
Vapor pressure:	6-16 mm Hg @ 68 F
Evaporation rate:	No data available.
Solubility:	Negligible
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES:

VOC content(%): No data available.
Viscosity: No data available.

10. STABILITY AND REACTIVITY

Stability: The material is stable at 70 F, 760 mm pressure.
Polymerization: Will not occur.
Hazardous decomposition products: Carbon monoxide, xylene vapors
Materials to avoid: Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid: Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Xylene	1330-20-7	LC50 = 5,267-6,700 ppm 4-6 hrs [Rats/Mice]	LD50 > 4 gm/kg [Rabbits]	LD50 = 2.5 - 10 ml/kg [Rats]

Toxicology Information:

XYLENES, ALL ISOMERS: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross overexposure. Effects from Prolonged or Repeated Exposure: Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. The relevance of these observations to humans is not clear at this time. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

ETHYLBENZENE: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). The incidence of tumors was also elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as "possibly carcinogenic to humans" (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals have demonstrated evidence of ototoxicity (hearing loss) following exposure levels as low as 300 ppm for 5 days. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

TARGET ORGANS: central nervous system, auditory system, eyes, skin, heart, kidney, liver, pituitary gland, thyroid, lungs, mucous membranes, respiratory system,

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

May partition into air, soil and water.

Ecotoxicity:

Toxic to aquatic organisms.

Bioaccumulation:

Not expected to bioaccumulate in aquatic organisms.

Persistence/Biodegradation:

Readily biodegradable in the environment.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Xylenes
UN/Identification No:	UN 1307
Hazard Class:	3
Packing group:	III
DOT reportable quantity (lbs):	1000 pounds.

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UN/Identification No:	UN 1307
Hazard Class:	3
Packing group:	III
Regulated substances:	1000 pounds.

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1000 pounds.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302:

This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Xylene	NA
Ethyl Benzene	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Xylene	= 100 lb final RQ = 45.4 kg final RQ
Ethyl Benzene	= 1000 lb final RQ = 454 kg final RQ

SARA Section 311/312

The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Xylene	= 1.0 % de minimis concentration
Ethyl Benzene	= 0.1 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Xylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic (skin); Flammable (skin)

Xylene

Michigan critical materials register list: = 100 lb Annual usage threshold all isomers
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: flammable - third degree
 New Jersey - Environmental Hazardous Substances List: SN 2014 TPQ 500 lb
 Illinois - Toxic Air Contaminants: Present
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ land/water
 = 1000 lb RQ air

Ethyl Benzene

Louisiana Right-To-Know: Not Listed
 California Proposition 65: carcinogen, initial date 6/11/04
 New Jersey Right-To-Know: sn 0851
 Pennsylvania Right-To-Know: Environmental hazard
 Massachusetts Right-To Know: Present
 Florida substance List: Not Listed.
 Rhode Island Right-To-Know: Toxic; Flammable
 Michigan critical materials register list: Not Listed.
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: carcinogen; flammable - third degree
 New Jersey - Environmental Hazardous Substances List: SN 0851 TPQ 500 lb
 Illinois - Toxic Air Contaminants: Present
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ land/water
 = 1000 lb RQ air

Canadian Regulatory Information:

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Xylene	B2, D2A, D2B	
Ethyl Benzene	B2, D2A, D2B	0.1 %

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

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End of Safety Data Sheet