

# P-XYLENE

XLP

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> 1,4-Dimethylbenzene Xylol		Watery liquid	Colorless	Sweet odor
Floats on water. Flammable, irritating vapor is produced. Freezing point is 56°F.				
<p>Keep people away. Shut off ignition sources and call fire department. Avoid contact with liquid and vapor. Notify local health and pollution control agencies. Protect water intakes.</p>				
<b>Fire</b>	<p><b>FLAMMABLE</b> Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Wear self-contained breathing apparatus. Extinguish with foam, dry chemical, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.</p>			
<b>Exposure</b>	<p>CALL FOR MEDICAL AID.</p> <p><b>VAPOR</b> Irritating to eyes, nose and throat. If inhaled, will cause dizziness, difficult breathing, or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p><b>LIQUID</b> Irritating to skin and eyes. If swallowed, will cause nausea, vomiting, loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.</p>			
<b>Water Pollution</b>	<p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>			

### 1. CORRECTIVE RESPONSE ACTIONS

Stop discharge  
Contain  
Collection Systems: Skim  
Chemical and Physical Treatment: Burn  
Clean shore line  
Salvage waterfowl

### 2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** 32; Aromatic Hydrocarbon  
2.2 **Formula:** p-C<sub>6</sub>H<sub>4</sub>(CH<sub>3</sub>)<sub>2</sub>  
2.3 **IMO/UN Designation:** 3.2/1307  
2.4 **DOT ID No.:** 1307  
2.5 **CAS Registry No.:** 106-42-3  
2.6 **NAERG Guide No.:** 130  
2.7 **Standard Industrial Trade Classification:** 51124

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Approved canister or air-supplied mask; goggles or face shield; plastic gloves and boots.
- 3.2 **Symptoms Following Exposure:** Vapors cause headache and dizziness. Liquid irritates eyes and skin. If taken into lungs, causes severe coughing, distress, and rapidly developing pulmonary edema. If ingested, causes nausea, vomiting, cramps, headache, and coma. Can be fatal. Kidney and liver damage can occur.
- 3.3 **Treatment of Exposure:** INHALATION: remove to fresh air; administer artificial respiration and oxygen if required; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water.
- 3.4 **TLV-TWA:** 100 ppm  
3.5 **TLV-STEL:** 150 ppm  
3.6 **TLV-Ceiling:** Not listed.  
3.7 **Toxicity by Ingestion:** Grade 3; LD<sub>50</sub> = 50 to 500 mg/kg  
3.8 **Toxicity by Inhalation:** Currently not available.  
3.9 **Chronic Toxicity:** Kidney and liver damage.  
3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.  
3.11 **Liquid or Solid Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.  
3.12 **Odor Threshold:** 0.05 ppm  
3.13 **IDLH Value:** 900 ppm  
3.14 **OSHA PEL-TWA:** 100 ppm  
3.15 **OSHA PEL-STEL:** Not listed.  
3.16 **OSHA PEL-Ceiling:** Not listed.  
3.17 **EPA AEGL:** Not listed

### 4. FIRE HAZARDS

- 4.1 **Flash Point:** 81°F C.C.  
4.2 **Flammable Limits in Air:** 1.1%-7.0%  
4.3 **Fire Extinguishing Agents:** Foam, dry chemical, or carbon dioxide  
4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective.  
4.5 **Special Hazards of Combustion Products:** Not pertinent  
4.6 **Behavior in Fire:** Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back.  
4.7 **Auto Ignition Temperature:** 984°F  
4.8 **Electrical Hazards:** Class I, Group D  
4.9 **Burning Rate:** 5.8 mm/min.  
4.10 **Adiabatic Flame Temperature:** Currently not available  
4.11 **Stoichiometric Air to Fuel Ratio:** 50.0 (calc.)  
4.12 **Flame Temperature:** Currently not available  
4.13 **Combustion Molar Ratio (Reactant to Product):** 13.0 (calc.)  
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction  
5.2 **Reactivity with Common Materials:** No reaction  
5.3 **Stability During Transport:** Stable  
5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent  
5.5 **Polymerization:** Not pertinent  
5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 22 ppm/96 hr/bluegill/TL<sub>m</sub>/fresh water  
6.2 **Waterfowl Toxicity:** Currently not available  
6.3 **Biological Oxygen Demand (BOD):** 0 lb/lb in 5 days  
6.4 **Food Chain Concentration Potential:** Currently not available  
6.5 **GESAMP Hazard Profile:**  
Bioaccumulation: 0  
Damage to living resources: 3  
Human Oral hazard: 1  
Human Contact hazard: 1  
Reduction of amenities: X

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Research: 99.99%; Pure: 99.8%; Technical: 99.0%  
7.2 **Storage Temperature:** Ambient  
7.3 **Inert Atmosphere:** No requirement  
7.4 **Venting:** Open (flame arrester) or pressure-vacuum  
7.5 **IMO Pollution Category:** C  
7.6 **Ship Type:** 3  
7.7 **Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Flammable liquid  
8.2 **49 CFR Class:** 3  
8.3 **49 CFR Package Group:** III  
8.4 **Marine Pollutant:** No  
8.5 **NFPA Hazard Classification:**
- | Category             | Classification |
|----------------------|----------------|
| Health Hazard (Blue) | 2              |
| Flammability (Red)   | 3              |
| Instability (Yellow) | 0              |
- 8.6 **EPA Reportable Quantity:** 100 pounds  
8.7 **EPA Pollution Category:** B  
8.8 **RCRA Waste Number:** U239  
8.9 **EPA FWPCA List:** Yes

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid  
9.2 **Molecular Weight:** 106.16  
9.3 **Boiling Point at 1 atm:** 280.9°F = 138.3°C = 411.5°K  
9.4 **Freezing Point:** 55.9°F = 13.3°C = 286.5°K  
9.5 **Critical Temperature:** 649.4°F = 343.0°C = 616.2°K  
9.6 **Critical Pressure:** 509.4 atm = 34.65 psia = 3.510 MN/m<sup>2</sup>  
9.7 **Specific Gravity:** 0.861 at 20°C (liquid)  
9.8 **Liquid Surface Tension:** 28.3 dynes/cm = 0.0283 N/m at 20°C  
9.9 **Liquid Water Interfacial Tension:** 37.8 dynes/cm = 0.0378 N/m at 20°C  
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent  
9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.071  
9.12 **Latent Heat of Vaporization:** 150 Btu/lb = 81 cal/g = 3.4 X 10<sup>5</sup> J/kg  
9.13 **Heat of Combustion:** -17,559 Btu/lb = -9754.7 cal/g = -408.41 X 10<sup>5</sup> J/kg  
9.14 **Heat of Decomposition:** Not pertinent  
9.15 **Heat of Solution:** Not pertinent  
9.16 **Heat of Polymerization:** Not pertinent  
9.17 **Heat of Fusion:** 37.83 cal/g  
9.18 **Limiting Value:** Currently not available  
9.19 **Reid Vapor Pressure:** 0.34 psia

### NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
60	53.970	60	0.412	60	0.935	60	0.678
65	53.850	70	0.418	65	0.928	65	0.654
70	53.690	80	0.424	70	0.921	70	0.631
75	53.550	90	0.429	75	0.914	75	0.610
80	53.410	100	0.435	80	0.907	80	0.590
85	53.270	110	0.440	85	0.900	85	0.571
90	53.140	120	0.446	90	0.892	90	0.552
95	53.000	130	0.451	95	0.885	95	0.535
100	52.860	140	0.457	100	0.878	100	0.519
105	52.720	150	0.462			105	0.503
110	52.580	160	0.468			110	0.488
115	52.440	170	0.474			115	0.474
120	52.300	180	0.479			120	0.460
		190	0.485				
		200	0.490				
		210	0.496				
		220	0.501				
		230	0.507				
		240	0.512				
		250	0.518				
		260	0.524				
		270	0.529				
		280	0.535				

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	60	0.096	60	0.00183	0	0.246
	N	70	0.135	70	0.00252	25	0.259
	S	80	0.187	80	0.00343	50	0.272
	O	90	0.255	90	0.00459	75	0.285
	L	100	0.343	100	0.00607	100	0.297
	U	110	0.456	110	0.00792	125	0.309
	B	120	0.599	120	0.01022	150	0.321
	L	130	0.777	130	0.01303	175	0.333
	E	140	0.998	140	0.01646	200	0.345
		150	1.270	150	0.02059	225	0.357
		160	1.600	160	0.02553	250	0.368
		170	1.998	170	0.03138	275	0.380
		180	2.475	180	0.03826	300	0.391
		190	3.041	190	0.04629	325	0.402
		200	3.710	200	0.05561	350	0.413
		210	4.493	210	0.06636	375	0.424
		220	5.407	220	0.07867	400	0.435
		230	6.465	230	0.09270	425	0.445
		240	7.683	240	0.10860	450	0.456
		250	9.080	250	0.12650	475	0.466
		260	10.670	260	0.14670	500	0.476
						525	0.486
						550	0.496
						575	0.505
						600	0.515