

XYLENOL

XYL

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Cresylic acid Dimethylphenol 2-Hydroxy-m-xylene 2,6-Xylenol	Solid or liquid May float or sink in water.	Light yellowish brown Sweet tarry odor
<p>Keep people away. Avoid contact with solid and liquid. Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>		
Fire	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire.	
Exposure	Call for medical aid. DUST Irritating to eyes, nose and throat. Harmful if inhaled. Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID OR SOLID Irritating to skin and eyes. If swallowed or skin is exposed will cause nausea and vomiting. 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 and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.	
Water Pollution	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.	

1. CORRECTIVE RESPONSE ACTIONS

- Stop discharge
- Contain
- Collection Systems: Skim; Pump;
- Dredge
- Chemical and Physical Treatment:
- Absorb
- Clean shore line

2. CHEMICAL DESIGNATIONS

- 2.1 **CG Compatibility Group:** Not listed.
- 2.2 **Formula:** 2, 6-(CH₃)₂C₆H₄OH
- 2.3 **IMO/UN Designation:** Not listed
- 2.4 **DOT ID No.:** 2261
- 2.5 **CAS Registry No.:** 576-26-1
- 2.6 **NAERG Guide No.:** 153
- 2.7 **Standard Industrial Trade Classification:** 51243

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Organic canister mask; goggles or face shield; rubber gloves; other protective clothing to prevent contact with skin.
- 3.2 **Symptoms Following Exposure:** Vapor irritates eyes, nose, and throat and is readily absorbed through mucous membranes and lungs, producing general toxic symptoms (weakness, dizziness, headache, difficult breathing, twitching). Contact with skin causes temporary pricking and intense burning, then local anesthesia. Affected areas initially show white discoloration, wrinkling, and softening, then become red, then brown or black (signs of gangrene). Extensive burns may permit absorption of chemical to produce toxic symptoms described above. Ingestion causes irritation of mouth and stomach, nausea, abdominal pain, weakness, dizziness, headache, difficult breathing, and twitching.
- 3.3 **Treatment of Exposure:** Get medical attention at once following exposure to this compound.
INHALATION: remove patient immediately to fresh air. Irritation of nose or throat may be somewhat relieved by spraying or gargling with water until all odor is gone; 100% oxygen inhalation is indicated for cyanosis or respiratory distress; keep patient warm, but not hot. **EYES:** flood with running water for 15 min.; if physician is not immediately available, continue irrigation for another 15 min.; 2-3 drops of 0.5% pontocaine or equivalent may be instilled after first 15 min.; do not use oils or oily ointments unless ordered by physician. **SKIN:** wash affected areas with large quantities of water or soapy water until all odor is gone; then wash with alcohol or 20% glycerin solution and more water; keep patient warm, but not hot; cover chemical burns continuously with compresses wet with saturated solution of sodium thiosulfate; apply no salves or ointments for 24 hrs after injury. **INGESTION:** give large quantities of liquid (salt water, weak sodium bicarbonate solution, milk, or gruel) followed by demulcent such as raw egg white or corn starch paste; if profuse vomiting does not follow immediately, give a mild emetic (such as 1 tbsp. mustard in glass of water), or tickle back of throat. Repeat procedure until vomitus is free of the odor. Some demulcent should be left in stomach after vomiting. Keep patient comfortably warm.
- 3.4 **TLV-TWA:** Not listed.
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 2; oral LD₅₀ = 1,070 mg/kg (mouse)
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Damage to heart muscle, and changes in liver, kidney, and spleen in rats
- 3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available
- 3.11 **Liquid or Solid Characteristics:** Currently not available
- 3.12 **Odor Threshold:** Currently not available
- 3.13 **IDLH Value:** Not listed.
- 3.14 **OSHA PEL-TWA:** Not listed.
- 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:** 163°F C.C.
- 4.2 **Flammable Limits in Air:** 1.4% (LFL)
- 4.3 **Fire Extinguishing Agents:** Water, dry chemical, foam, carbon dioxide
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Toxic vapors of unburned material may form in fire.
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** 1110°F
- 4.8 **Electrical Hazards:** Currently not available
- 4.9 **Burning Rate:** Currently not available
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** 47.6 (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:** (2, 6 isomer) 7-9 ppm*/trout/lethal/fresh water
*Time period not specified.
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** 31% of theoretical in 5 days
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: T
 Damage to living resources: 2
 Human Oral hazard: 2
 Human Contact hazard: II
 Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 99% 2, 6-Xylenol. Other commercial Xylenols include 2, 3-; 2, 4-; 2, 5-; 3, 4-; 3, 5-; and various mixtures of these. Properties are similar to those of the 2, 6-compound.
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open (flame arrester)
- 7.5 **IMO Pollution Category:** B
- 7.6 **Ship Type:** 3
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Poison
- 8.2 **49 CFR Class:** 6.1
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** Yes
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	2
Instability (Yellow).....	0
- 8.6 **EPA Reportable Quantity:** 1,000 pounds
- 8.7 **EPA Pollution Category:** C
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid or liquid
- 9.2 **Molecular Weight:** 122.2
- 9.3 **Boiling Point at 1 atm:** 413°F = 212°C = 485°K
- 9.4 **Freezing Point:** -40 to +106°F = -40 to +45°C = 233 to 318°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 1.01 at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** (est.) 30 dynes/cm = 0.030 N/m at 30°C
- 9.9 **Liquid Water Interfacial Tension:** (est.) 25 dynes/cm = 0.025 N/m at 25°C
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** 212.74 Btu/lb = 118.19 cal/g = 4,9451 X 10³ J/kg at 25°C
- 9.13 **Heat of Combustion:** -15,310 Btu/lb = -8,500 cal/g = -356 X 10³ 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:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

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	63.460	60	0.456	60	0.967	160	1.845
70	63.180	61	0.456	61	0.967	165	1.744
80	62.900	62	0.457	62	0.967	170	1.650
90	62.620	63	0.457	63	0.967	175	1.562
100	62.350	64	0.458	64	0.967	180	1.480
110	62.070	65	0.458	65	0.967	185	1.403
120	61.790	66	0.459	66	0.967	190	1.332
130	61.510	67	0.459	67	0.967	195	1.265
140	61.240	68	0.460	68	0.967	200	1.203
150	60.960	69	0.461	69	0.967	205	1.144
160	60.680	70	0.461	70	0.967	210	1.089
170	60.400	71	0.462	71	0.967	215	1.038
180	60.130	72	0.462	72	0.967	220	0.989
190	59.850	73	0.463	73	0.967	225	0.944
200	59.570	74	0.463	74	0.967	230	0.901
210	59.290	75	0.464	75	0.967	235	0.861
		76	0.464	76	0.967	240	0.823
		77	0.465	77	0.967	245	0.787
		78	0.466	78	0.967		
		79	0.466	79	0.967		
		80	0.467	80	0.967		
		81	0.467	81	0.967		
		82	0.468	82	0.967		
		83	0.468	83	0.967		
		84	0.469	84	0.967		
		85	0.469	85	0.967		

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
77	0.200	220	0.345	220	0.00577		N
		230	0.441	230	0.00727		O
		240	0.559	240	0.00910		T
		250	0.705	250	0.01131		
		260	0.883	260	0.01397		P
		270	1.099	270	0.01715		E
		280	1.360	280	0.02093		R
		290	1.674	290	0.02542		T
		300	2.048	300	0.03070		I
		310	2.494	310	0.03688		N
		320	3.021	320	0.04410		E
		330	3.641	330	0.05249		N
		340	4.368	340	0.06218		T
		350	5.217	350	0.07335		
		360	6.205	360	0.08617		
		370	7.348	370	0.10080		
		380	8.667	380	0.11750		
		390	10.180	390	0.13640		
		400	11.920	400	0.15780		
		410	13.900	410	0.18200		
		420	16.160	420	0.20910		