

VINYL TOLUENE

VNT

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS		7. SHIPPING INFORMATION	
Common Synonyms p-Methylstyrene		Watery liquid	Colorless	4.1 Flash Point: 137°F O.C. 125°F C.C. 4.2 Flammable Limits in Air: 0.8%-11% 4.3 Fire Extinguishing Agents: Water fog, foam, carbon dioxide, or dry chemical 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent 4.5 Special Hazards of Combustion Products: Not pertinent 4.6 Behavior in Fire: Containers may explode or rupture in a fire due to polymerization. 4.7 Auto Ignition Temperature: 1000°F 4.8 Electrical Hazards: I, D 4.9 Burning Rate: 6.0 mm/min. 4.10 Adiabatic Flame Temperature: Currently not available 4.11 Stoichiometric Air to Fuel Ratio: 54.7 (calc.) 4.12 Flame Temperature: Currently not available 4.13 Combustion Molar Ratio (Reactant to Product): 14.0 (calc.) 4.14 Minimum Oxygen Concentration for Combustion (MOCC): N ₂ diluent: 9.0%		7.1 Grades of Purity: 99.2+%	
Avoid contact with liquid. Call fire department. Notify local health and pollution control agencies. Protect water intakes.						7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open (flame arrester) 7.5 IMO Pollution Category: A 7.6 Ship Type: 3 7.7 Barge Hull Type: 3	
Fire Combustible. Containers may explode in fire. Wear goggles and self-contained breathing apparatus. Extinguish with water, dry chemical, foam, or carbon dioxide. Cool exposed containers with water.						8. HAZARD CLASSIFICATIONS	
Exposure CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Harmful if swallowed. 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.		8.1 49 CFR Category: Flammable liquid 8.2 49 CFR Class: 3 8.3 49 CFR Package Group: III 8.4 Marine Pollutant: Yes 8.5 NFPA Hazard Classification:		Category Classification Health Hazard (Blue)..... 2 Flammability (Red)..... 2 Instability (Yellow)..... 2		8.6 EPA Reportable Quantity: Not listed. 8.7 EPA Pollution Category: Not listed. 8.8 RCRA Waste Number: Not listed 8.9 EPA FWCNA List: Not listed	
Water Pollution Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.				9. PHYSICAL & CHEMICAL PROPERTIES		9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: 118.18 9.3 Boiling Point at 1 atm: 333.9°F = 167.7°C = 440.9°K 9.4 Freezing Point: -106.6°F = -77.0°C = 196.2°K 9.5 Critical Temperature: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 0.897 at 20°C (liquid) 9.8 Liquid Surface Tension: 31.53 dynes/cm = 0.03153 N/m at 20°C 9.9 Liquid Water Interfacial Tension: (est.) 45 dynes/cm = 0.045 N/m at 20°C 9.10 Vapor (Gas) Specific Gravity: Not pertinent 9.11 Ratio of Specific Heats of Vapor (Gas): (est.) 1.060 9.12 Latent Heat of Vaporization: 150 Btu/lb = 83.5 cal/g = 3.50 X 10 ⁵ J/kg 9.13 Heat of Combustion: -17.710 Btu/lb = -9840 cal/g = 412.0 X 10 ⁵ J/kg 9.14 Heat of Decomposition: Not pertinent 9.15 Heat of Solution: Not pertinent 9.16 Heat of Polymerization: -243 Btu/lb = -135 cal/g = -5.65 X 10 ⁵ J/kg 9.17 Heat of Fusion: Currently not available 9.18 Limiting Value: Currently not available 9.19 Reid Vapor Pressure: 0.07 psia	
1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge Contain Collection Systems: Skim Salvage waterfowl	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: 30; Olefin 2.2 Formula: CH ₃ CH ₂ CH=CH ₂ 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: 2618 2.5 CAS Registry No.: 25013-15-4 2.6 NAERG Guide No.: 130P 2.7 Standard Industrial Trade Classification: 51129	3. HEALTH HAZARDS 3.1 Personal Protective Equipment: Air-supplied mask; goggles or face shield; plastic gloves. 3.2 Symptoms Following Exposure: Vapors irritate eyes and nose, high levels cause dizziness, drunkenness, and anesthesia. Liquid irritates eyes and may irritate skin. 3.3 Treatment of Exposure: INHALATION: remove person to fresh air; give artificial respiration and oxygen if needed; call a doctor. INGESTION: do NOT induce vomiting; no known antidote; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off, wash with soap and water. 3.4 TLV-TWA: 50 ppm 3.5 TLV-STEL: 100 ppm 3.6 TLV-Ceiling: Not listed 3.7 Toxicity by Ingestion: Grade 2; LD ₅₀ = 0.5 to 5 g/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. 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: 50 ppm 3.13 IDLH Value: 400 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 AERG: Not listed	4. WATER POLLUTION 6.1 Aquatic Toxicity: Currently not available 6.2 Waterfowl Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): Currently not available 6.4 Food Chain Concentration Potential: None 6.5 GESAMP Hazard Profile: Bioaccumulation: T Damage to living resources: 3 Human Oral hazard: 1 Human Contact hazard: I Reduction of amenities: X	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
35	56.910	35	0.393	41	1.040	35	1.091
40	56.770	40	0.396	42	1.040	40	1.046
45	56.630	45	0.398	43	1.040	45	1.003
50	56.490	50	0.401	44	1.040	50	0.963
55	56.350	55	0.403	45	1.040	55	0.925
60	56.220	60	0.406	46	1.040	60	0.889
65	56.080	65	0.408	47	1.040	65	0.856
70	55.940	70	0.411	48	1.040	70	0.824
75	55.800	75	0.413	49	1.040	75	0.794
80	55.660	80	0.416	50	1.040	80	0.765
85	55.520	85	0.418	51	1.040	85	0.738
90	55.380	90	0.421	52	1.040	90	0.713
95	55.240	95	0.423	53	1.040	95	0.689
100	55.110	100	0.426	54	1.040	100	0.666
105	54.970	105	0.428	55	1.040	105	0.644
110	54.830	110	0.431	56	1.040	110	0.623
115	54.690	115	0.433	57	1.040	115	0.603
120	54.550	120	0.436	58	1.040	120	0.585
125	54.410			59	1.040	125	0.567
130	54.270			60	1.040	130	0.550
135	54.130			61	1.040	135	0.533
140	54.000			62	1.040	140	0.518
				63	1.040		
				64	1.040		
				65	1.040		
				66	1.040		

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	0.009	40	0.007	40	0.00015	85	0.295
		50	0.010	50	0.00023	90	0.295
		60	0.016	60	0.00033	95	0.295
		70	0.023	70	0.00048	100	0.295
		80	0.033	80	0.00068	105	0.295
		90	0.048	90	0.00095	110	0.295
		100	0.067	100	0.00132	115	0.295
		110	0.094	110	0.00182	120	0.295
		120	0.130	120	0.00246	125	0.295
		130	0.177	130	0.00331	130	0.295
		140	0.239	140	0.00439	135	0.295
		150	0.320	150	0.00578	140	0.295
		160	0.424	160	0.00754	145	0.295
		170	0.557	170	0.00975	150	0.295
		180	0.726	180	0.01249	155	0.295
		190	0.938	190	0.01589	160	0.295
		200	1.202	200	0.02006	165	0.295
		210	1.530	210	0.02515	170	0.295
		220	1.932	220	0.03130		
		230	2.425	230	0.03871		
		240	3.023	240	0.04757		