

HEPTANOIC ACID

HEP

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Enanthic acid Hephtic acid n-Heptoic acid n-Heptylic acid Hexane carboxylic acid	Liquid Colorless Rancid Odor Floats on water.
<p>Keep people away. Avoid contact with vapor or liquid. Wear self-contained breathing apparatus and full protective clothing. Notify local health and pollution control agencies. Protect water intakes.</p>	
Fire	<p>Combustible. Wear self-contained breathing apparatus and full protective clothing. Extinguish with dry chemical, CO₂, foam, or water spray.</p>
Exposure	<p>CALL FOR MEDICAL AID.</p> <p>VAPOR Harmful if inhaled. Extremely irritating to eyes, nose and throat. Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>LIQUID Harmful if swallowed or absorbed through skin. Will burn skin and eyes. 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. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS: do nothing except keep victim warm.</p>
Water Pollution	<p>Effects of low concentrations on aquatic life is not known. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of local water intakes.</p>

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Dilute and disperse
Collection Systems: Pump

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 4; Organic acids
2.2 Formula: C₇H₁₄O₂
2.3 IMO/UN Designation: Not Listed
2.4 DOT ID No.: Not Listed
2.5 CAS Registry No.: 111-14-8
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51377

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Approved respirator, rubber gloves, safety goggles.
- 3.2 **Symptoms Following Exposure:** Harmful if swallowed, inhaled, or absorbed through skin. Extremely destructive to mucous membranes, upper respiratory tract, skin, and eyes. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
- 3.3 **Treatment of Exposure:** INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Hold eyelids open and flush with water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Flush affected areas with plenty of running water.
- 3.4 **TLV-TWA:** Not listed.
- 3.5 **TLV-STEL:** Not listed.
- 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 1; LD₅₀ = 7 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 severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations.
- 3.11 **Liquid or Solid Characteristics:** Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes.
- 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:** >230°F C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Dry chemical, CO₂, foam, or water spray
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Currently not available
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Currently not available
- 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:** 45.2 (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):** 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:** Caustic soda or lime.
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

6. 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:** Currently not available
- 6.5 **GESAMP Hazard Profile:**
Bioaccumulation: 0
Damage to living resources: 1
Human Oral hazard: 0
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 96 %
- 7.2 **Storage Temperature:** Currently not available
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 7.5 **IMO Pollution Category:** D
- 7.6 **Ship Type:** Data not available
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed
- 8.2 **49 CFR Class:** Not Pertinent
- 8.3 **49 CFR Package Group:** Not listed.
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 130.19
- 9.3 **Boiling Point at 1 atm:** 433°F = 223°C = 496°K
- 9.4 **Freezing Point:** 18°F = -7.5°C = 266°K
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 0.9200 at 20°C
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** 4.49
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** 302.8 Btu/lb = 168.2 cal/g = 7.04 X 10⁵ J/kg
- 9.13 **Heat of Combustion:** -13,634 Btu/lb = -7,574 cal/g = -317 X 10³ J/kg
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Currently not available
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Low

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
68	57.430		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

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
59	0.250	180	0.028		C	0	0.315
		200	0.060		U	25	0.325
		220	0.119		R	50	0.336
		240	0.224		R	75	0.346
		260	0.400		E	100	0.356
		280	0.684		N	125	0.366
		300	1.128		T	150	0.376
		320	1.801		L	175	0.386
		340	2.795		Y	200	0.396
		360	4.230			225	0.407
		380	6.260		N	250	0.417
		400	9.079		O	275	0.427
		420	12.931		T	300	0.437
						325	0.447
					A	350	0.457
					V	375	0.467
					A	400	0.478
					I	425	0.488
					L	450	0.498
					A	475	0.508
					B	500	0.518
					L	525	0.528
					E	550	0.539
						575	0.549
						600	0.559