

# 2-ETHYL-3-PROPYLACROLEIN

EPA

## CAUTIONARY RESPONSE INFORMATION

Common Synonyms 2-Ethyl-2-hexenal 2-Ethyl-3-propylacraldehyde	Liquid Yellow  Floats on water.
<p>Avoid contact with liquid. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>	
<b>Fire</b>	Combustible. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Extinguish with dry chemical, alcohol foam or carbon dioxide. Cool exposed containers with water.
<b>Exposure</b>	CALL FOR MEDICAL AID.  LIQUID Will burn 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.
<b>Water Pollution</b>	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.

1. CORRECTIVE RESPONSE ACTIONS	2. CHEMICAL DESIGNATIONS	3. HEALTH HAZARDS
Dilute and disperse Stop discharge Contain Collection Systems: Skim Clean shore line Salvage waterfowl	<b>2.1 CG Compatibility Group:</b> 19; Aldehyde <b>2.2 Formula:</b> $\text{CH}_3(\text{CH}_2)_2\text{CH}=\text{C}(\text{C}_2\text{H}_5)\text{CHO}$ <b>2.3 IMO/UN Designation:</b> 3.3/1191 <b>2.4 DOT ID No.:</b> 1191 <b>2.5 CAS Registry No.:</b> 645-62-5 <b>2.6 NAERG Guide No.:</b> 153 <b>2.7 Standard Industrial Trade Classification:</b> 51621	<p><b>3.1 Personal Protective Equipment:</b> Protective clothing; eye protection; approved respirator for high vapor concentrations.</p> <p><b>3.2 Symptoms Following Exposure:</b> Vapor is irritating. Contact produces skin and eye irritation.</p> <p><b>3.3 Treatment of Exposure:</b> Remove from exposure. Wash affected areas of body with water for 15 min.</p> <p><b>3.4 TLV-TWA:</b> Not listed.</p> <p><b>3.5 TLV-STEL:</b> Not listed.</p> <p><b>3.6 TLV-Ceiling:</b> Not listed.</p> <p><b>3.7 Toxicity by Ingestion:</b> Grade 2; LD<sub>50</sub> = 0.5 to 5 g/kg (rat)</p> <p><b>3.8 Toxicity by Inhalation:</b> Currently not available.</p> <p><b>3.9 Chronic Toxicity:</b> Currently not available.</p> <p><b>3.10 Vapor (Gas) Irritant Characteristics:</b> Vapor is moderately irritating such that personnel will not usually tolerate moderate or high vapor concentrations.</p> <p><b>3.11 Liquid or Solid Characteristics:</b> Causes smarting of the skin and first-degree burns on short exposure; may cause secondary burns on long exposure.</p> <p><b>3.12 Odor Threshold:</b> Currently not available.</p> <p><b>3.13 IDLH Value:</b> Not listed.</p> <p><b>3.14 OSHA PEL-TWA:</b> Not listed.</p> <p><b>3.15 OSHA PEL-STEL:</b> Not listed.</p> <p><b>3.16 OSHA PEL-Ceiling:</b> Not listed.</p> <p><b>3.17 EPA AEGL:</b> Not listed</p>

<b>4. FIRE HAZARDS</b>	<b>7. SHIPPING INFORMATION</b>								
<b>4.1 Flash Point:</b> 155°F O.C. <b>4.2 Flammable Limits in Air:</b> Currently not available <b>4.3 Fire Extinguishing Agents:</b> Alcohol foam, dry chemical or carbon dioxide <b>4.4 Fire Extinguishing Agents Not to Be Used:</b> Not pertinent <b>4.5 Special Hazards of Combustion Products:</b> Not pertinent <b>4.6 Behavior in Fire:</b> Not pertinent <b>4.7 Auto Ignition Temperature:</b> 200°C <b>4.8 Electrical Hazards:</b> Not pertinent <b>4.9 Burning Rate:</b> Currently not available <b>4.10 Adiabatic Flame Temperature:</b> Currently not available <b>4.11 Stoichiometric Air to Fuel Ratio:</b> 52.4 (calc.) <b>4.12 Flame Temperature:</b> Currently not available <b>4.13 Combustion Molar Ratio (Reactant to Product):</b> 15.0 (calc.) <b>4.14 Minimum Oxygen Concentration for Combustion (MOCC):</b> Not listed	<b>7.1 Grades of Purity:</b> Technical <b>7.2 Storage Temperature:</b> Ambient <b>7.3 Inert Atmosphere:</b> No requirement <b>7.4 Venting:</b> Pressure-vacuum <b>7.5 IMO Pollution Category:</b> A <b>7.6 Ship Type:</b> 3 <b>7.7 Barge Hull Type:</b> 3								
	<b>8. HAZARD CLASSIFICATIONS</b>								
	<b>8.1 49 CFR Category:</b> Flammable liquid <b>8.2 49 CFR Class:</b> 3 <b>8.3 49 CFR Package Group:</b> III <b>8.4 Marine Pollutant:</b> No <b>8.5 NFPA Hazard Classification:</b> <table border="1"> <tr> <td>Category</td> <td>Classification</td> </tr> <tr> <td>Health Hazard (Blue).....</td> <td>2</td> </tr> <tr> <td>Flammability (Red).....</td> <td>2</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>1</td> </tr> </table>	Category	Classification	Health Hazard (Blue).....	2	Flammability (Red).....	2	Instability (Yellow).....	1
Category	Classification								
Health Hazard (Blue).....	2								
Flammability (Red).....	2								
Instability (Yellow).....	1								
	<b>8.6 EPA Reportable Quantity:</b> Not listed. <b>8.7 EPA Pollution Category:</b> Not listed. <b>8.8 RCRA Waste Number:</b> Not listed <b>8.9 EPA FWCNA List:</b> Not listed								
	<b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b>								
	<b>9.1 Physical State at 15° C and 1 atm:</b> Liquid <b>9.2 Molecular Weight:</b> 126.2 <b>9.3 Boiling Point at 1 atm:</b> 283°F = 175°C = 448°K <b>9.4 Freezing Point:</b> Not pertinent <b>9.5 Critical Temperature:</b> Not pertinent <b>9.6 Critical Pressure:</b> Not pertinent <b>9.7 Specific Gravity:</b> 0.857 at 15°C (liquid) <b>9.8 Liquid Surface Tension:</b> 28.2 dynes/cm = 0.0282 N/m at 20°C <b>9.9 Liquid Water Interfacial Tension:</b> (est.) 40 dynes/cm = 0.0282 N/m at 20°C <b>9.10 Vapor (Gas) Specific Gravity:</b> Not pertinent <b>9.11 Ratio of Specific Heats of Vapor (Gas):</b> Not pertinent <b>9.12 Latent Heat of Vaporization:</b> Not pertinent <b>9.13 Heat of Combustion:</b> -15,610 Btu/lb = -8670 cal/g = -363 X 10 <sup>3</sup> J/kg <b>9.14 Heat of Decomposition:</b> Not pertinent <b>9.15 Heat of Solution:</b> Not pertinent <b>9.16 Heat of Polymerization:</b> Not pertinent <b>9.17 Heat of Fusion:</b> Currently not available <b>9.18 Limiting Value:</b> Currently not available <b>9.19 Reid Vapor Pressure:</b> 0.07 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
34	54.360	50	0.525	50	1.109	68	1.280
36	54.290	52	0.525	52	1.109		
38	54.220	54	0.525	54	1.109		
40	54.150	56	0.525	56	1.109		
42	54.090	58	0.525	58	1.109		
44	54.020	60	0.525	60	1.109		
46	53.950	62	0.525	62	1.109		
48	53.880	64	0.525	64	1.109		
50	53.810	66	0.525	66	1.109		
52	53.740	68	0.525	68	1.109		
54	53.670	70	0.525	70	1.109		
56	53.600	72	0.525	72	1.109		
58	53.530	74	0.525	74	1.109		
60	53.460	76	0.525	76	1.109		
62	53.390	78	0.525	78	1.109		
64	53.320	80	0.525	80	1.109		
66	53.250	82	0.525	82	1.109		
68	53.180	84	0.525	84	1.109		
70	53.110	86	0.525	86	1.109		
72	53.040	88	0.525	88	1.109		
74	52.980	90	0.525	90	1.109		
76	52.910	92	0.525	92	1.109		
78	52.840	94	0.525	94	1.109		
80	52.770	96	0.525	96	1.109		
82	52.700	98	0.525	98	1.109		
84	52.630	100	0.525	100	1.109		

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	90	0.050	90	0.00107	90	0.303	
N	100	0.069	100	0.00145	100	0.303	
S	110	0.094	110	0.00194	110	0.303	
O	120	0.126	120	0.00256	120	0.303	
L	130	0.169	130	0.00336	130	0.303	
U	140	0.223	140	0.00436	140	0.303	
B	150	0.291	150	0.00561	150	0.303	
L	160	0.378	160	0.00716	160	0.303	
E	170	0.466	170	0.00907	170	0.303	
	180	0.620	180	0.01139	180	0.303	
	190	0.785	190	0.01421	190	0.303	
	200	0.988	200	0.01760	200	0.303	
	210	1.233	210	0.02165	210	0.303	
	220	1.531	220	0.02647	220	0.303	
	230	1.887	230	0.03217	230	0.303	
	240	2.314	240	0.03887	240	0.303	
	250	2.820	250	0.04671	250	0.303	
	260	3.418	260	0.05583	260	0.303	
	270	4.121	270	0.06639			
	280	4.943	280	0.07857			
	290	5.901	290	0.09254			
	300	7.012	300	0.10850			
	310	8.295	310	0.12670			
	320	9.770	320	0.14730			
	330	11.460	330	0.17060			
	340	13.390	340	0.19680			