

AMYL ACETATE (ALL ISOMERS)

AEC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Amyl acetate, mixed isomers Acetic acid, n-amylic ester Pentyl acetates		Watery liquid Colorless to yellow Banana odor Floats on water. Flammable, irritating vapor is produced.
Shut off ignition sources and call fire department. Stop discharge if possible. Keep people away. Avoid contact with liquid and vapor. Stay upwind and use water spray to "knock down" vapor. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.		
Fire	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Extinguish with dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.	
Exposure	CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. If inhaled, will cause nausea, headache or dizziness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to 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.	
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 pollution control officials. Notify operators of nearby water intakes.	

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
 Contain
 Collection Systems: Skim
 Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** 34; Esters
 2.2 **Formula:** CH₃COOC₅H₁₁
 2.3 **IMO/UN Designation:** 3.2/1104
 2.4 **DOT ID No.:** 1104
 2.5 **CAS Registry No.:** 628-63-7
 2.6 **NAERG Guide No.:** 129
 2.7 **Standard Industrial Trade Classification:** 51372

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Air-supplied mask or chemical cartridge respirator, protective gloves, goggles, safety shower, and eye bath.
- 3.2 **Symptoms Following Exposure:** Irritation of eyes, nose and throat. Dizziness, nausea, headache.
- 3.3 **Treatment of Exposure:** INHALATION: move victim to fresh air; call physician; administer oxygen. SKIN OR EYES: flush with water.
- 3.4 **TLV-TWA:** 100 ppm
 3.5 **TLV-STEL:** Not listed.
 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 1; LD₅₀ = 6.5 g/kg (rat)
 3.8 **Toxicity by Inhalation:** Currently not available.
 3.9 **Chronic Toxicity:** None
- 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentration. The effect is temporary.
- 3.11 **Liquid or Solid Characteristics:** No appreciable hazard. Practically harmless to the skin. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
- 3.12 **Odor Threshold:** 0.067 ppm
 3.13 **IDLH Value:** 1,000 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:** 106 F (O.C.) (iso-); 69°F C.C. (n-); 91°F C.C.
- 4.2 **Flammable Limits in Air:** 1.1%-7.5% (n)
- 4.3 **Fire Extinguishing Agents:** Alcohol foam, dry chemical, carbon dioxide
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Water in straight hose stream will scatter and spread fire and should not be used
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** 680°F
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** 4.1 mm/min.
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Currently not available
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Currently not available
- 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:** 120 ppm/48 hr/daphnia/TL₅₀/turbid water
 180 ppm/96 hr/scenedesmus/TL₅₀/fresh water
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** 0.3-0.8 lb/lb, 5 days
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: 0
 Damage to living resources: 2
 Human Oral hazard: 0
 Human Contact hazard: 0
 Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 85-96% (technical, commercial)
- 7.2 **Storage Temperature:** Ambient (cool)
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Currently not available
- 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)..... | 1 |
| Flammability (Red)..... | 3 |
| Instability (Yellow)..... | 0 |
- 8.6 **EPA Reportable Quantity:** 5000
 8.7 **EPA Pollution Category:** D
 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:** Liquid
- 9.2 **Molecular Weight:** 130.19
- 9.3 **Boiling Point at 1 atm:** 295°F = 146°C = 419°K
- 9.4 **Freezing Point:** < -148°F = < -100°C = < 173°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 0.876 at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** 12 dynes/cm = 0.012 N/m at 30°C
- 9.9 **Liquid Water Interfacial Tension:** (est.) 50 dynes/cm = 0.05 N/m at 17°C
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.1
- 9.12 **Latent Heat of Vaporization:** 140 Btu/lb = 75 cal/g = 3.1 X 10⁵ J/kg
- 9.13 **Heat of Combustion:** -13,360 Btu/lb = -7423 cal/g = -310.8 X 10⁵ 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:** 0.1 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	56.110	40	0.453	28	0.962	52	1.557
36	56.040	50	0.457	30	0.960	54	1.473
38	55.970	60	0.460	32	0.958	56	1.395
40	55.900	70	0.464	34	0.956	58	1.321
42	55.830	80	0.468	36	0.955	60	1.251
44	55.760	90	0.471	38	0.953	62	1.186
46	55.700	100	0.475	40	0.951	64	1.124
48	55.630	110	0.479	42	0.949	66	1.066
50	55.560	120	0.482	44	0.948	68	1.012
52	55.490	130	0.486	46	0.946	70	0.961
54	55.420	140	0.490	48	0.944	72	0.912
56	55.350	150	0.493	50	0.943	74	0.867
58	55.280	160	0.497	52	0.941	76	0.824
60	55.210	170	0.501	54	0.939	78	0.783
62	55.140	180	0.504	56	0.937	80	0.745
64	55.070	190	0.508	58	0.936	82	0.709
66	55.000	200	0.512	60	0.934	84	0.674
68	54.930	210	0.515	62	0.932	86	0.642
70	54.860			64	0.931		
72	54.790			66	0.929		
74	54.720			68	0.927		
76	54.650			70	0.925		

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
68	0.200	40	0.030	40	0.00072	0	0.288
		50	0.042	50	0.00101	25	0.300
		60	0.060	60	0.00140	50	0.312
		70	0.084	70	0.00192	75	0.323
		80	0.116	80	0.00260	100	0.334
		90	0.158	90	0.00348	125	0.346
		100	0.212	100	0.00460	150	0.357
		110	0.283	110	0.00604	175	0.367
		120	0.375	120	0.00784	200	0.378
		130	0.490	130	0.01008	225	0.388
		140	0.636	140	0.01286	250	0.399
		150	0.818	150	0.01627	275	0.409
		160	1.043	160	0.02042	300	0.419
		170	1.321	170	0.02544	325	0.429
		180	1.660	180	0.03147	350	0.438
		190	2.071	190	0.03866	375	0.448
		200	2.567	200	0.04719	400	0.457
		210	3.161	210	0.05725	425	0.466
		220	3.869	220	0.06904	450	0.475
		230	4.708	230	0.08280	475	0.484
		240	5.697	240	0.09876	500	0.493
		250	6.857	250	0.11720	525	0.502
		260	8.210	260	0.13840	550	0.510
		270	9.782	270	0.16260	575	0.518
		280	11.600	280	0.19020	600	0.526
		290	13.690	290	0.22150		