

AMYL ACETATE (ALL ISOMERS)

AEC

| CAUTIONARY RESPONSE INFORMATION | | | | | |
|---|---|---|--|--|--|
| Common Synonyms Amyl acetate, mixed isomers Acetic acid, n-amyl ester Pentyl acetates | Watery liquid Colorless to yellow Banana odor | Floats on water. Flammable, irritating vapor is produced. | | | |
| <p>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.</p> | | | | | |
| 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 | 2. CHEMICAL DESIGNATIONS |
|---|---|
| Stop discharge Contain Collection Systems: Skim Salvage waterfowl | 2.1 CG Compatibility Group: 34: Esters 2.2 Formula: $\text{CH}_3\text{COOC}_2\text{H}_5$ 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; $\text{LD}_{50} = 6.5 \text{ g/kg}$ (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 | 7. SHIPPING INFORMATION | | | | | | | | |
|--|---|----------|----------------|----------------------|---|--------------------|---|----------------------|---|
| 4.1 Flash Point: 106 F (O.C.) (iso-): 69°F C.C. (n-): 91°F C.C. | 7.1 Grades of Purity: 85-96% (technical, commercial) | | | | | | | | |
| 4.2 Flammable Limits in Air: 1.1%-7.5% (n) | 7.2 Storage Temperature: Ambient (cool) | | | | | | | | |
| 4.3 Fire Extinguishing Agents: Alcohol foam, dry chemical, carbon dioxide | 7.3 Inert Atmosphere: No requirement | | | | | | | | |
| 4.4 Fire Extinguishing Agents Not to Be Used: Water in straight hose stream will scatter and spread fire and should not be used | 7.4 Venting: Currently not available | | | | | | | | |
| 4.5 Special Hazards of Combustion Products: Not pertinent | 7.5 IMO Pollution Category: C | | | | | | | | |
| 4.6 Behavior in Fire: Not pertinent | 7.6 Ship Type: 3 | | | | | | | | |
| 4.7 Auto Ignition Temperature: 680°F | 7.7 Barge Hull Type: Currently not available | | | | | | | | |
| 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 | 8. HAZARD CLASSIFICATIONS | | | | | | | | |
| 4.12 Flame Temperature: Currently not available | 8.1 49 CFR Category: Flammable liquid | | | | | | | | |
| 4.13 Combustion Molar Ratio (Reactant to Product): Currently not available | 8.2 49 CFR Class: 3 | | | | | | | | |
| 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed | 8.3 49 CFR Package Group: III | | | | | | | | |
| | 8.4 Marine Pollutant: No | | | | | | | | |
| | 8.5 NFPA Hazard Classification: <table border="0"> <tr> <th style="text-align: center;">Category</th> <th style="text-align: center;">Classification</th> </tr> <tr> <td>Health Hazard (Blue)</td> <td>1</td> </tr> <tr> <td>Flammability (Red)</td> <td>3</td> </tr> <tr> <td>Instability (Yellow)</td> <td>0</td> </tr> </table> | Category | Classification | Health Hazard (Blue) | 1 | Flammability (Red) | 3 | Instability (Yellow) | 0 |
| 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 | | | | | | | | |
| 5. CHEMICAL REACTIVITY | 9. PHYSICAL & CHEMICAL PROPERTIES | | | | | | | | |
| 5.1 Reactivity with Water: No reaction | 9.1 Physical State at 15° C and 1 atm: Liquid | | | | | | | | |
| 5.2 Reactivity with Common Materials: No reaction | 9.2 Molecular Weight: 130.19 | | | | | | | | |
| 5.3 Stability During Transport: Stable | 9.3 Boiling Point at 1 atm: 295°F = 146°C = 419°K | | | | | | | | |
| 5.4 Neutralizing Agents for Acids and Caustics: Not pertinent | 9.4 Freezing Point: <-148°F = <-100°C = < 173°K | | | | | | | | |
| 5.5 Polymerization: Not pertinent | 9.5 Critical Temperature: Not pertinent | | | | | | | | |
| 5.6 Inhibitor of Polymerization: Not pertinent | 9.6 Critical Pressure: Not pertinent | | | | | | | | |
| 6. WATER POLLUTION | 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 10 ⁵ J/kg | | | | | | | | |
| | 9.13 Heat of Combustion: -13,360 Btu/lb = -7423 cal/g = -310.8 X 10 ⁵ 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 | 9.792 | 270 | 0.16260 | 575 | 0.518 |
| | | 280 | 11.600 | 280 | 0.19020 | 600 | 0.526 |
| | | 290 | 13.690 | 290 | 0.22150 | | |