

EPOXIDIZED VEGETABLE OILS

EVO

| CAUTIONARY RESPONSE INFORMATION | | | | 4. FIRE HAZARDS | 7. SHIPPING INFORMATION |
|--|---|--|---|---|--|
| Common Synonyms Drying oil epoxides Epoxidized drying oils Epoxidized oils | Oily liquid Floats on water. | Pale yellow | Odorless | <p>4.1 Flash Point: 585°F O.C. 4.2 Flammable Limits in Air: Not pertinent 4.3 Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide 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: Not pertinent 4.7 Auto Ignition Temperature: Currently not available 4.8 Electrical Hazards: Not pertinent 4.9 Burning Rate: Currently not available 4.10 Adiabatic Flame Temperature: Currently not available 4.11 Stoichiometric Air to Fuel Ratio: Not pertinent 4.12 Flame Temperature: Currently not available 4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p> | <p>7.1 Grades of Purity: Epoxidized vegetable oil; Epoxidized soybean oil 7.2 Storage Temperature: Ambient 7.3 Inert Atmosphere: No requirement 7.4 Venting: Open 7.5 IMO Pollution Category: Currently not available 7.6 Ship Type: Currently not available 7.7 Barge Hull Type: Currently not available</p> |
| Fire | Combustible. Extinguish with foam, dry chemical or carbon dioxide. | | | | 8. HAZARD CLASSIFICATIONS |
| Exposure | Not harmful. | | | | <p>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</p> |
| 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 |
| 1. CORRECTIVE RESPONSE ACTIONS Stop discharge Contain Collection Systems: Skim Chemical and Physical Treatment: Absorb Clean shore line Salvage waterfowl | 2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: (OC(=O)C(CH ₃) ₂) _n CO ₂ 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 42000 | 3. HEALTH HAZARDS 3.1 Personal Protective Equipment: Currently not available 3.2 Symptoms Following Exposure: Currently not available 3.3 Treatment of Exposure: Currently not available 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 0; LD ₅₀ above 15 g/kg (rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Not pertinent 3.11 Liquid or Solid Characteristics: Currently not available 3.12 Odor Threshold: Odorless 3.13IDLH 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. 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 | 5. WATER POLLUTION 6.1 Aquatic Toxicity: 240 ppm/24 hr;brine shrimp/TL _m 6.2 Waterfowl Toxicity: Currently not available 6.3 Biological Oxygen Demand (BOD): 4% of theoretical in 5 days, fresh water, acclimated seed 6.4 Food Chain Concentration Potential: Currently not available 6.5 GESAMP Hazard Profile: Not listed | <p>9.1 Physical State at 15°C and 1 atm: Liquid 9.2 Molecular Weight: Not pertinent 9.3 Boiling Point at 1 atm: Very high 9.4 Freezing Point: Not pertinent 9.5 Critical Temperature: Not pertinent 9.6 Critical Pressure: Not pertinent 9.7 Specific Gravity: 1.0 at 20°C (liquid) 9.8 Liquid Surface Tension: 36.2 dynes/cm = 0.0362 N/m at 24°C 9.9 Liquid Water Interfacial Tension: 50 dynes/cm = 0.05 N/m at 22.7°C 9.10 Vapor (Gas) Specific Gravity: Not pertinent 9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent 9.12 Latent Heat of Vaporization: Not pertinent 9.13 Heat of Combustion: (est.) -13,000 Btu/lb = -7,000 cal/g = -300 X 10³ 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: Currently not available</p> |
| 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 | 63.600 | 85 | 0.458 | 50 | 1.109 | 68 | 518.000 |
| 36 | 63.530 | 90 | 0.462 | 52 | 1.109 | | |
| 38 | 63.460 | 95 | 0.466 | 54 | 1.109 | | |
| 40 | 63.390 | 100 | 0.470 | 56 | 1.109 | | |
| 42 | 63.320 | 105 | 0.474 | 58 | 1.109 | | |
| 44 | 63.260 | 110 | 0.478 | 60 | 1.109 | | |
| 46 | 63.190 | 115 | 0.482 | 62 | 1.109 | | |
| 48 | 63.120 | 120 | 0.486 | 64 | 1.109 | | |
| 50 | 63.050 | 125 | 0.489 | 66 | 1.109 | | |
| 52 | 62.980 | 130 | 0.493 | 68 | 1.109 | | |
| 54 | 62.910 | 135 | 0.497 | 70 | 1.109 | | |
| 56 | 62.840 | 140 | 0.501 | 72 | 1.109 | | |
| 58 | 62.770 | 145 | 0.505 | 74 | 1.109 | | |
| 60 | 62.700 | 150 | 0.509 | 76 | 1.109 | | |
| 62 | 62.630 | | | 78 | 1.109 | | |
| 64 | 62.560 | | | 80 | 1.109 | | |
| 66 | 62.490 | | | 82 | 1.109 | | |
| 68 | 62.420 | | | 84 | 1.109 | | |
| 70 | 62.350 | | | | | | |
| 72 | 62.280 | | | | | | |
| 74 | 62.210 | | | | | | |
| 76 | 62.150 | | | | | | |
| 78 | 62.080 | | | | | | |
| 80 | 62.010 | | | | | | |
| 82 | 61.940 | | | | | | |
| 84 | 61.870 | | | | | | |

| 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 N S O L U B L E | | C U R R E N T L Y | | C U R R E N T L Y | | N O T P E R T I N E N T |
| | | | N O T A V A I L A B L E | | N O T A V A I L A B L E | | |