



Material Safety Data Sheet

MONSOL DOP

1. Product Identification

Product Name: MONSOL DOP

Chemical Name: Phthalic acid, bis (2-ethylhexyl) ester

Chemical Formula: C₂₄-H₃₈O₄

Catalogue No: SLD3478

CAS No: 117-81-7

RTECS: TI0350000

TSCA: TSCA 8(b) inventory: Monsol Dioctyl phthalate

CI#: Not available.

Synonym: Bisoflex 81, Bisoflex DOP, DEHP, Eviplast 80, Eviplast 81, Fleximel, Flexol DOP, Flexol Plasticizer DOP, Hatcol DOP, Jayflex DOP, Kodaflex DOP, Octoil, Platinol DOP, Reomol DOP, Staflex DOP, Truflex DOP, Vestinol AH, Vinicizer 80, Witicizer 312; Di-(2-ethylhexyl)phthalate; BIS(2-Ethylhexyl)phthalate; 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester; 2-Ethylhexyl phthalate; bis(2-ethylhexyl)-1,2-benzenedicarboxylate; Di(2-Ethylhexyl)orthophthalate.

Company Identification

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2. Hazards Identification

Potential Acute Health Effects: Slightly hazardous. May cause irritation to the skin and eyes if contact occurs. Irritation may also occur to the ingestion and inhalation tract.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal) by ACGIH. Classified 2 (Some evidence) by NTP. Classified 3 (Not classifiable for humans) by IARC.

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to the liver. Repeated or prolonged exposure to the substance can produce organ damage.

3. Composition/Information on Ingredients

Chemical name: Dioctyl phthalate

CAS Number: 117-81-7 100

Toxicological Data on Ingredients: Dioctyl phthalate: ORAL (LD50): Acute: 30000 mg/kg [Rat]. & gt; 30000 mg/kg [Mouse]. 34000 mg/kg [Rabbit]. DERMAL (LD50): Acute: 25000 mg/kg [Rabbit].

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of eye contact, immediately flush eyes with plenty of water and get medical attention if irritation occurs.

Skin Contact: Thoroughly wash the skin with soap and water. Seek medical attention if irritation develops.

Inhalation: If inhaled, remove the patient to fresh air. If the patient is not breathing, give artificial respiration. If breathing is difficult, give the patient oxygen. Seek medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen any tight clothing such as a collar, tie, belt or waistband. If symptoms appear, seek medical attention.

5. Fire Fighting Measures

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 390.56°C (735°F)

Flash Points: CLOSED CUP: 207°C (404.6°F). OPEN CUP: 215.56°C (420°F) - 218°C (Cleveland).

Flammable Limits: LOWER: 0.3%

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances: Slightly flammable in the presence of open flames and sparks but Non-flammable in the presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and irritating fumes.

Special Remarks on Explosion Hazards: Not available.

6. Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow it to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities

7. Handling and Storage

Precautions: Keep locked up and away from the heat and sources of ignition. Empty the containers that pose a fire risk; evaporate the residue under a fume hood. Ground all equipment containing the material. Do not ingest this material or breathe in its gas, fumes, vapours or spray. Wear suitable protective clothing. If ingested, seek medical advice immediately. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed and in a cool, well-ventilated area.

8. Exposure Controls/Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Safety glasses and a lab coat.

Personal Protection in Case of a Large Spill: Splash goggles, full protective suit, boots and gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: TWA: 5 (mg/m³) from ACGIH (TLV) [United States] TWA: 5 (mg/m³) from OSHA (PEL) [United States] TWA: 5 STEL: 10 (mg/m³) from NIOSH [United States] 3 Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state and appearance: Liquid. (Oily liquid)

Odour: Slight.

Taste: Not available.

Molecular Weight: 390.54 g/mole

Colour: Colourless to light yellow.

pH (1% soln/water): Not applicable.

Boiling Point: 384°C (723.2°F)

Melting Point: -55 C to -46°C (-50.8°F)

Critical Temperature: Not available.

Specific Gravity: 0.9861 (Water = 1)

Vapour Pressure: 0 kPa (@ 20°C)

Vapour Density: 16 (Air = 1)

Volatility: Not available.

Odour Threshold: Not available.

Water/Oil Dist. Coeff: The product is more soluble in oil; log (oil/water) = 7.6

Ionicity (in Water): Not available.

Dispersion Properties: Not available.

Solubility: Insoluble in cold water. It is miscible in mineral oil, and hexane. It is slightly soluble in carbon tetrachloride.

10. Stability and reactivity

Stability: This product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, ignition sources, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosively: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

11. Toxicological information

Routes of Entry: Absorbed through skin and through eye contact.

Toxicity to Animals: Acute oral toxicity (LD50): 30000 mg/kg [Rat].

Acute dermal toxicity (LD50): 25000 mg/kg [Rabbit].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH. Classified 2 (Some evidence.) By NTP. 3 (Not classifiable for human.) by IARC.

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the liver.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

Testicular damage in animal. May cause adverse reproductive effects and birth defects (teratogenic) and may affect genetic material (mutagenic) or cause cancer, based on animal test data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects:

Skin: It may cause mild skin irritation. It is not easily absorbed through human skin.

Eyes: It may cause mild eye irritation.

Inhalation: At significant concentrations, it may cause upper respiratory tract (nostril, throat) and mucous membrane irritation. Acute larger inhalation exposure may result in tachypnea or dyspnoea.

Ingestion: Considered innocuous at small doses and a low hazard for normal industrial handling. May cause digestive tract irritation with mild gastric disturbances and diarrhoea may occur following ingestion of larger doses. CNS depression may occur if large amounts of phthalate esters are absorbed.

Chronic Potential Health Effects:

Ingestion: Prolonged or repeated ingestion may affect the liver

12. Ecological information

Eco toxicity:

Eco toxicity in water (LC50): 0.7 mg/l 96 hours [Lepomis macrochirus]. >100 mg/l 96 hours [Channel catfish].>100mg/l 96 hours [Trout].

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

15. Regulatory information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Dioctyl phthalate

Connecticut hazardous material survey: Dioctyl phthalate

Illinois toxic substances disclosure to employee act: Dioctyl phthalate

Illinois chemical safety act: Dioctyl phthalate

New York release reporting list: Dioctyl phthalate

Rhode Island RTK hazardous substances: Dioctyl phthalate

Pennsylvania RTK: Dioctyl phthalate **Minnesota:** Dioctyl phthalate

Massachusetts RTK: Dioctyl phthalate **Massachusetts spill list:** Dioctyl phthalate

New Jersey: Dioctyl phthalate **New Jersey spill list:** Dioctyl phthalate

Louisiana spill reporting: Dioctyl phthalate

California Director's List of Hazardous Substances: Dioctyl phthalate

TSCA 8(b) inventory: Dioctyl phthalate

TSCA 8(a) IUR: Dioctyl phthalate

TSCA 8(d) H and S data reporting: Dioctyl phthalate: **Effective date:** 10/4/82; **Sunset data:** 10/4/92

SARA 313 toxic chemical notification and release reporting: Dioctyl phthalate

CERCLA: Hazardous substances: Dioctyl phthalate: 100 lbs. (45.36 kg)

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC)

DSCL (EEC):

R60- May impair fertility.

R61- May cause harm to the unborn child.

S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: a

National Fire Protection Association (U.S.A.):

Health: 0

Flammability: 1

Reactivity: 0

Specific hazard: Not applicable.

Protective Equipment: Wear appropriate respirator when ventilation is inadequate as well as safety glasses and a lab coat.

16. Other information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

Michael Ballance Plastics Limited provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.