

## Material Safety Data Sheet (MSDS) - Dioctyl phthalate

### 1. Chemical Product and Company Identification

**Product Name** : Dioctyl phthalate  
**Catalog Codes** : SLD3478  
**CAS#** : 117-81-7  
**RTECS** : TI0350000  
**TSCA** : TSCA 8(b) inventory: 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  
**Chemical Name** : Phthalic acid, bis(2-ethylhexyl)ester  
**Chemical Formula** : C24-H38-O4

### COMPANY IDENTIFICATION

**Supplier:** Pure Chemicals Group.  
CHENNAI, TAMILNADU, INDIA  
**24 Hour Health Emergency** (91) 8939878447  
(91) 9444038694  
**Transportation Emergency Phone** (91) 8939768680

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pure Chemicals Group.	India	Day Emergency - 044-26161803-26161809

### 2. Composition and Information on Ingredients

#### Composition:

Name	CAS #	% by Weight
Dioctyl phthalate	117-81-7	100

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

### 3. Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

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. TERATOGENIC EFFECTS:

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

### 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient.

Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

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

Serious Ingestion: Not available.

### 5. Fire and Explosion Data

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, CO <sub>2</sub> ).

#### Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in 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 & Explosion Hazards: When heated to decomposition it emits acrid smoke and irritating fumes.

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### **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 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.

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### **7. Handling and Storage**

#### Precautions:

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

Storage: Keep container tightly closed. Keep container 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 vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Safety glasses. Lab coat.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits:

TWA: 5 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]

TWA: 5 (mg/m<sup>3</sup>) from OSHA (PEL) [United States]

TWA: 5 STEL: 10 (mg/ m<sup>3</sup>) from NIOSH [United States]<sup>3</sup>

Consult local authorities for acceptable exposure limits.

## 9. Physical and Chemical Properties

Physical state and appearance	: Liquid. (Oily liquid.)
Odor	: Slight.
Taste	: Not available.
Molecular Weight	: 390.54 g/mole
Color	: Colorless 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)
Vapor Pressure	: 0 kPa (@ 20°C)
Vapor Density	: 16 (Air = 1)
Volatility	: Not available.
Odor 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 Data

Stability	: The product is stable.
Instability Temperature	: Not available.
Conditions of Instability	: Excess heat, ignition sources, incompatible materials.
Incompatibility with various substances:	Reactive with oxidizing agents.
Corrosivity	: 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. 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 following organs: 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). May affect genetic material (mutagenic). May 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 (nose, throat) and mucous membrane irritation. Acute larger inhalation exposure may result in tachypnea or dyspnea. Ingestion: Considered innocuous at small doses. Low hazard for normal industrial handling. May cause digestive tract irritation with mild gastric disturbances and diarrhea 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

### Ecotoxicity:

Ecotoxicity in water (LC50): 0.7 mg/l 96 hours [Lepomis macrochirus]. >100 mg/l 96 hours [Channel catfish]. >100 mg/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: Other 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  
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer 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:

Protective Equipment:

Not applicable. Lab coat. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

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## 16: Other Information

### Disclaimer:

The information and recommendations contained herein are, to the best of **Pure Chemicals Group** knowledge and belief, accurate and reliable as of the date issued.

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