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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Dioctyl Phthalate (DOP)	**Revision date:** 2026-10-29	**Version:** 1.0	**Brand:** Richest

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product name	Dioctyl Phthalate (DOP)
Synonyms	Bis(2-ethylhexyl) phthalate; DEHP; DOP; Phthalic acid bis(2-ethylhexyl ester)
CAS No.	117-81-7
EC No.	204-211-0
Molecular formula	C24H38O4
Molecular weight	390.56 g/mol
Relevant identified uses	General-purpose plasticizer for PVC and other resins (films, cables, flooring, synthetic leather)
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Repr. 1B
Pictogram(s)	GHS08 (Health hazard)
Signal word	Danger
Hazard statement(s)	H360FD May damage fertility. May damage the unborn child.
Precautionary statement(s)	P201 Obtain special instructions before use P202 Do not handle until all

	safety precautions have been read and
Other hazards	Endocrine disrupting properties. This substance contains no components considered to be PBT or vPvB at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Component	Bis(2-ethylhexyl) phthalate
CAS No.	117-81-7
EC No.	204-211-0
Classification	Repr. 1B; H360FD (SVHC Candidate List substance)
Concentration (%)	≤100%

SECTION 4: First aid measures

If inhaled	Remove person to fresh air. Call a physician.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.
In case of eye contact	Rinse out with plenty of water. Call an ophthalmologist. Remove contact lenses.
If swallowed	Immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects	The most important known symptoms and effects are described in section 2 and section 11.
Indication of any immediate medical attention	Treat symptomatically. Show this safety data sheet to the doctor in attendance.

SECTION 5: Firefighting measures

Suitable extinguishing media	Foam, carbon dioxide (CO2), dry powder
Unsuitable extinguishing media	None (no limitations of extinguishing agents are given)
Special hazards arising from the chemical	Carbon oxides. Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective

SECTION 6: Accidental release measures	
Personal precautions, protective equipment and emergency procedures	Do not breathe vapors/aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage	
Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

SECTION 8: Exposure controls/personal protection	
Occupational exposure limit values	None established for this product
Biological limit values	None established
Appropriate engineering controls	Ensure adequate ventilation. Change contaminated clothing; wash hands and face after working with substance.
Eye/face protection	Safety glasses (tested and approved under NIOSH (US) or EN 166 (EU))
Skin protection	Handle with chemical-resistant gloves
Body protection	Protective clothing
Respiratory protection	Required when vapours/aerosols are generated (recommended filter type ABEK)
Thermal hazards	Not applicable

SECTION 9: Physical and chemical properties	
Physical state	Oily liquid
Colour	Colorless
Odour	Odorless
Melting point / freezing point	-50 °C
Boiling point or initial boiling point	384 °C

and boiling range	
Flammability	Combustible
Lower and upper explosion limit / flammability limit	Lower explosion limit: 0.3 % (V)
Flash point	207 °C - closed cup
Auto-ignition temperature	390 °C
Decomposition temperature	> 393 °C
pH	Neutral at 20 °C
Kinematic viscosity	ca. 78.17 mm2/s at 20 °C (dynamic viscosity: 81 mPa·s at 20 °C)
Solubility	Water: ca. 0.086 g/L at 25 °C (insoluble); soluble in most organic solvents
Partition coefficient n-octanol/water	log Pow: ca. 7.5 (measured)
Vapour pressure	1.6 hPa at 93 °C; ca. 0.0002 hPa at 20 °C
Density and/or relative density	0.982 - 0.988 g/cm3 at 20 °C
Relative vapour density	ca. 13.5 (Air = 1.0)
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Forms explosive mixtures with air on intense heating.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use
Conditions to avoid	Strong heating.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon oxides (in the event of fire)

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	LD0 Oral - Rat - > 20,000 mg/kg; LC0 Inhalation - Rat - 4 h - > 10.62 mg/L; LD50 Dermal - Rabbit - 19,800 mg/kg
Skin corrosion/irritation	Rabbit - slight irritation (4 h, OECD Test Guideline 404)
Serious eye damage/irritation	Rabbit - no eye irritation (72 h, OECD Test Guideline 405)
Respiratory or skin sensitization	Maximization Test - Guinea pig - negative; does not cause respiratory

	sensitization (mouse)
Germ cell mutagenicity	Negative (Ames test, in vitro gene mutation, chromosome aberration tests)
Carcinogenicity	IARC: Group 2B (possibly carcinogenic to humans)
Reproductive toxicity	May damage fertility. May damage the unborn child.
STOT - single exposure	Not classified
STOT - repeated exposure	Not classified (based on available data)
Aspiration hazard	Not classified

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	Fish: LC50 - Pimephales promelas - > 0.67 mg/L - 96 h (above solubility limit); Daphnia: EC50 - Daphnia magna - > 0.16 mg/L - 48 h; Algae: EC50 - Pseudokirchneriella subcapitata - > 0.003 mg/L - 72 h
Persistence and degradability	Readily biodegradable (82%, 29 d, OECD Test Guideline 301B)
Bioaccumulative potential	BCF: 113 (Oncorhynchus mykiss). Does not bioaccumulate.
Mobility in soil	Strong adsorption to soil and sediment expected (log Pow ca. 7.5); low mobility
Other adverse effects	None known

SECTION 13: Disposal considerations

Product disposal methods	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	Dispose of contaminated packaging in accordance with local regulations.

SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	Not regulated as dangerous goods
UN Proper Shipping Name	Not dangerous goods (ADR/RID, IMDG, IATA)
Transport hazard class(es)	Not regulated
Packing group	Not regulated
Environmental hazards (Marine pollutant)	No (not a marine pollutant)
Special precautions for user	No special precautions required

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	REACH SVHC Candidate List: Listed / REACH Annex XVII restrictions apply / EINECS: Listed (204-211-0) / TSCA: Listed / IECSC: Listed

SECTION 16: Other information

Full text of H-Statements	H360FD May damage fertility. May damage the unborn child.
Revision date	2026-10-29
Version	1.0

Abbreviations and acronyms: CAS: Chemical Abstracts Service; EC: European Commission; EINECS: European Inventory of Existing Commercial Chemical Substances; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; RID: Regulation concerning the International Carriage of Dangerous Goods by Rail; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; TWA: Time Weighted Average; STEL: Short Term Exposure Limit; LD50: Lethal Dose 50%; LC50: Lethal Concentration 50%; EC50: Effective Concentration 50%; PBT: Persistent, Bioaccumulative and Toxic; vPvB: very Persistent and very Bioaccumulative; SDS: Safety Data Sheet.

References: ECHA - European Chemicals Agency, https://echa.europa.eu/; IPCS - International Chemical Safety Cards (ICSC), http://www.ilo.org/; HSDB - Hazardous Substances Data Bank; eChemPortal - OECD Global Portal to Information on Chemical Substances; ERG - Emergency Response Guidebook by U.S. DOT.

Disclaimer: The information in this SDS is only applicable to the specified product and is provided in good faith. It is based on the knowledge available to Richest Group Ltd. at the date of issue and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute any guarantee of the properties of the product. Richest Group Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product.