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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: Dioctyl Adipate (DOA)	**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 Adipate (DOA)
Synonyms	Bis(2-ethylhexyl) adipate; Adipic acid dioctyl ester; DEHA
CAS No.	103-23-1
EC No.	203-090-1
Molecular formula	C22H42O4
Molecular weight	370.57 g/mol
Relevant identified uses	Cold-resistant plasticizer for PVC, synthetic rubber and cellulose resins; raw material for food wrap films
Uses advised against	None
Company	Richest Group Ltd.
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SECTION 2: Hazards identification

GHS Classification	Skin Irrit. 2; Eye Irrit. 2A
Pictogram(s)	GHS07 (Exclamation mark)
Signal word	Warning
Hazard statement(s)	H315 Causes skin irritation H319 Causes serious eye irritation
Precautionary statement(s)	P264 Wash skin thoroughly after handling P280 Wear protective gloves/eye protection/face protection

Other hazards	This substance is not considered to be persistent, bioaccumulative and toxic (PBT/vPvB).

SECTION 3: Composition/information on ingredients

Component	Dioctyl adipate (Bis(2-ethylhexyl) adipate)
CAS No.	103-23-1
EC No.	203-090-1
Classification	Skin Irrit. 2; Eye Irrit. 2A; H315, H319
Concentration (%)	≥99.5%

SECTION 4: First aid measures

If inhaled	Remove to fresh air. If not breathing, give artificial respiration. 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 cautiously with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Call an ophthalmologist.
If swallowed	Immediately make victim drink water (two glasses at most). Do not induce vomiting. Consult a physician.
Most important symptoms and effects	Skin irritation; serious eye irritation.
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	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable extinguishing media	None
Special hazards arising from the chemical	Combustible. Development of hazardous combustion gases or vapours (carbon oxides) possible in the event of fire.
Advice for firefighters	Wear self-contained breathing apparatus and full protective clothing for

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency	Use personal protective equipment. Avoid breathing vapors, mist or gas.

procedures	Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental precautions	Do not let product enter drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	Soak up with inert absorbent material (e.g. sand, vermiculite). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Ensure adequate ventilation.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in an airtight, dry, light-proof and well-ventilated place. Keep away from strong oxidizing agents.

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. Provide eyewash stations and safety showers close to the workstation.
Eye/face protection	Wear tightly fitting safety goggles/face shield.
Skin protection	Wear suitable protective gloves (e.g. butyl rubber, nitrile rubber).
Body protection	Wear appropriate protective clothing to prevent skin contact.
Respiratory protection	Where ventilation is inadequate, wear a suitable respirator with organic vapor filter.
Thermal hazards	Not applicable

SECTION 9: Physical and chemical properties

Physical state	Liquid, oily
Colour	Colorless
Odour	Slight, characteristic
Melting point / freezing point	-67.8 °C
Boiling point or initial boiling point and boiling range	417 °C at 1,013 hPa (214 °C at 5 mmHg)
Flammability	Combustible

Lower and upper explosion limit / flammability limit	0.3 - 2.8 vol% in air
Flash point	≥190 °C - closed cup
Auto-ignition temperature	ca. 377 °C
Decomposition temperature	No data available
pH	Not applicable (practically insoluble in water)
Kinematic viscosity	ca. 14 mm2/s at 20 °C (dynamic viscosity ca. 13 mPa·s)
Solubility	Insoluble in water (ca. 0.02 mg/L at 25 °C, est.); soluble in most organic solvents
Partition coefficient n-octanol/water	log Pow: ca. 8.1 (estimated)
Vapour pressure	< 0.1 hPa at 25 °C (estimated)
Density and/or relative density	0.925 g/cm3 at 25 °C
Relative vapour density	ca. 12.8 (Air = 1.0)
Particle characteristics	Not applicable (liquid)

SECTION 10: Stability and reactivity

Reactivity	Violent reactions possible with strong oxidizing agents
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use
Conditions to avoid	Heat, flames and prolonged exposure to air and light
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon oxides

SECTION 11: Toxicological information

Acute toxicity - Oral / Inhalation / Dermal	LD50 Oral - Rat: 9,110 mg/kg Inhalation: not applicable LD50 Dermal - Rabbit: 8,410 mg/kg
Skin corrosion/irritation	Causes skin irritation
Serious eye damage/irritation	Causes serious eye irritation
Respiratory or skin sensitization	Not expected to be a skin sensitizer based on available data
Germ cell mutagenicity	Negative (Ames test)

Carcinogenicity	IARC: Group 3 (not classifiable as to its carcinogenicity to humans)
Reproductive toxicity	Not classified (based on available data)
STOT - single exposure	Not classified (based on available data)
STOT - repeated exposure	Not classified (based on available data)
Aspiration hazard	May be harmful if swallowed and enters airways (ICSC GHS labelling)

SECTION 12: Ecological information

Toxicity to fish / daphnia / algae	Fish: LC50 - Pimephales promelas - > 100 mg/L - 96 h (above solubility limit, est.)
Persistence and degradability	Readily biodegradable (OECD Test Guideline 301)
Bioaccumulative potential	High log Pow (ca. 8.1, estimated) indicates potential for bioaccumulation; however, rapid metabolism in organisms limits actual accumulation
Mobility in soil	Adsorption to soil and sediment expected (log Pow ca. 8.1); low mobility
Other adverse effects	None known

SECTION 13: Disposal considerations

Product disposal methods	Offer surplus and non-recyclable product to a licensed disposal company. Dispose of in accordance with local and national regulations.
Contaminated packaging	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

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

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	EINECS: Listed (203-090-1) / TSCA: Listed / IECSC: Listed / China Catalog of Hazardous Chemicals 2015: Not Listed

SECTION 16: Other information

Full text of H-Statements	H315 Causes skin irritation H319 Causes serious eye irritation
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.