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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Di-n-Octyl Adipate (DOA) 99%	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

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

Product name	Di-n-Octyl Adipate (DOA) 99%
Synonyms	Dioctyl adipate; Di-n-octyl adipate; Dioctyl hexanedioate; Hexanedioic acid, dioctyl ester; Dicaprylyl adipate; DOA
CAS No.	123-79-5
EC No.	204-652-9
Molecular formula	C22H42O4
Molecular weight	370.57 g/mol
Relevant identified uses	Low-temperature plasticizer for PVC films, cables and flexible profiles; Plasticizer for coatings, adhesives and sealants; Specialty lubricant and metalworking-fluid formulations; Plasticizer for rubber and elastomer compounds
Uses advised against	No specific uses advised against were identified in the reviewed sources.
Company	Richest Group
Address	No. 999, Jiangyue Rd, Minhang, Shanghai 201114, China
Telephone	0086 21 5017 5386
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Website	www.richest-group.com
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SECTION 2: Hazards identification

GHS Classification	Skin irritation, Category 2; Eye irritation, Category 2 (public ChemicalBook SDS, consistent with Solechem safety information)
Pictogram(s)	GHS07
Signal word	Warning
Hazard statement(s)	H315 Causes skin irritation; H319 Causes serious eye irritation
Precautionary statement(s)	P264 Wash thoroughly after handling; P280 Wear protective gloves, protective clothing and eye/face protection; P302+P352 IF ON SKIN: Wash with plenty of water; P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do; continue rinsing; P332+P317 If skin irritation occurs: Get medical help; P337+P317 If eye irritation persists: Get medical advice or attention; P362+P364 Take off contaminated clothing and wash it before reuse
Other hazards	Acute high-dose animal studies show moderate toxicity by IV route and mild toxicity by ingestion; A skin and eye irritant; Oral LD50 (rat) = 9110 mg/kg; [Sax]

SECTION 3: Composition/information on ingredients

Component	Di-n-Octyl Adipate (DOA) 99%
CAS No.	123-79-5

SECTION 3: Composition/information on ingredients	
EC No.	204-652-9
Classification	Skin irritation, Category 2; Eye irritation, Category 2 (public ChemicalBook SDS, consistent with Solechem safety information)
Concentration	Typically 99% minimum (commercial supplier statement)

SECTION 4: First-aid measures	
If inhaled	Inhalation: move to fresh air and rest.
In case of skin contact	Skin: remove contaminated clothing and wash with soap and water.
In case of eye contact	Eyes: rinse with plenty of water, removing contact lenses if easy, and obtain medical help if irritation persists.
If swallowed	Ingestion: rinse mouth and give one or two glasses of water
Most important symptoms and effects	No data available
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures	
Suitable extinguishing media	Use foam, carbon dioxide or dry chemical. The liquid is combustible and may react with strong oxidants or strong acids. Firefighters should wear self-contained breathing apparatus when necessary and prevent contaminated fire water from entering drains.
Unsuitable extinguishing media	No data available
Special hazards arising from the chemical	Combustible; reacts with strong oxidants and strong acids, creating a fire hazard. Heated decomposition produces acrid smoke and irritating fumes.
Advice for firefighters	Wear self-contained breathing apparatus and protective clothing appropriate for the surrounding fire.

SECTION 6: Accidental release measures	
Personal precautions and emergency procedures	Avoid contact with the material. Ensure adequate ventilation. Wear appropriate personal protective equipment.
Environmental precautions	Prevent uncontrolled release to drains, soil and watercourses.
Methods for containment and cleaning up	Ventilate, remove ignition sources and keep unprotected personnel away. Wear chemical-resistant gloves and eye protection, avoid skin/eye contact and mist inhalation, collect the liquid in sealable containers, and do not allow it to enter drains or the environment.

SECTION 7: Handling and storage	
Precautions for safe handling	Handle with adequate ventilation and good industrial hygiene. Avoid skin and eye contact and aerosol formation, use non-sparking tools, prevent static discharge, and wash thoroughly after handling.
Conditions for safe storage, including incompatibilities	Keep the container tightly closed in a dry, cool, well-ventilated place. Separate from strong oxidants and strong acids, prevent static discharge, and keep away from drains and incompatible materials.

SECTION 8: Exposure controls/personal protection

Occupational exposure limit values	No substance-specific occupational exposure limit is assigned in the reviewed public SDS.
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	No substance-specific occupational exposure limit is assigned in the selected public SDS. Provide adequate ventilation, emergency eyewash and safety shower access; use chemical-resistant gloves, protective clothing and tight-fitting goggles, with suitable organic-vapor/mist respiratory protection where exposure assessment requires it.
Eye/face protection	Use safety eyewear appropriate to the risk of exposure.
Skin and body protection	Wear suitable protective gloves and clothing appropriate to the risk of exposure.
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	No specific thermal hazards were identified in the reviewed sources; see Sections 5 and 10.

SECTION 9: Physical and chemical properties

Physical state	COLORLESS OR VERY PALE AMBER LIQUID
Colour	COLORLESS OR VERY PALE AMBER LIQUID
Odour	SLIGHT, AROMATIC SMELL
Melting point / freezing point	7.49°C
Boiling point / boiling range	Normal Boiling Point: 404.84 °C (687 K)
Flammability	Combustible liquid; reported flash point 196 °C in the reviewed supplier data.
Explosion / flammability limits	No data available
Flash point	196 °C
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	Not applicable to the neat, water-insoluble organic liquid.
Viscosity	1.89X10-2 Pa sec @ 7.49 °C (280.65 K)
Solubility	INSOL IN WATER @ 25 °C; INSOL OR VERY SLIGHTLY SOL IN GLYCERINE & GLYCOLS; SOL IN MOST ORGANIC SOLVENTS; In water, 0.78 mg/l @ 22 °C
Partition coefficient n-octanol/water	6.11 (supplier-published value)
Vapour pressure	8.50X10-7 mm Hg @ 20 °C
Density and/or relative density	0.925 g/cm³ at 25°C
Relative vapour density	No data available
Particle characteristics	Not applicable (liquid).
Appearance	Clear, low-viscosity liquid
Odor	Mild, characteristic
Refractive index	1.4474
Water solubility	Insoluble in water at 25 °C; soluble in most organic solvents (public SDS)
Vapor pressure	8.50 × 10^-7 mmHg at 20 °C (public SDS)
Refractive index	Index of refraction: 1.45 (determined at 293 K)

SECTION 10: Stability and reactivity	
Reactivity	Reacts with strong oxidants and strong acids, creating a fire hazard.
Chemical stability	Reacts with strong oxidants and strong acids, creating a fire hazard. Store away from incompatible materials and ignition sources; no hazardous polymerization is claimed in the selected SDS.
Possibility of hazardous reactions	No hazardous polymerization is claimed in the reviewed SDS; avoid strong oxidants and strong acids.
Conditions to avoid	Avoid heat, ignition sources and contact with strong oxidants or strong acids.
Incompatible materials	...CAN REACT WITH OXIDIZING MATERIALS.
Hazardous decomposition products	When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information	
Toxicological summary	The public SDS reports rat oral LD50 9110 mg/kg. The selected classification is skin irritation Category 2 and serious eye irritation Category 2; avoid repeated contact and inhalation of mist.
Skin corrosion irritation	GHS classification: Skin corrosion/irritation Category 2
Serious eye damage irritation	GHS classification: Serious eye damage/eye irritation Category 2A (supplier SDS basis)
Acute toxicity	LD50 Rat oral 9110 mg/kg; LD50 Rat iv 900 mg/kg; LD50 Mouse oral 15 g/kg; LD50 Rabbit iv 540 mg/kg
Health effects	Acute high-dose animal studies show moderate toxicity by IV route and mild toxicity by ingestion; A skin and eye irritant; Oral LD50 (rat) = 9110 mg/kg; [Sax]

SECTION 12: Ecological information	
Environmental fate	The public SDS reports 65–96% primary degradation in a semi-continuous activated-sludge test and 94% biodegradation over 35 days. A bluegill BCF of 27 indicates low bioconcentration potential. Nevertheless, prevent release to waterways and drains.
Persistence degradability	AEROBIC: In a semi-continuous activated sludge method used to simulate sewage treatment plant biodegradation, di-n-octyl adipate was observed to undergo primary degradation of 65-96% (at concns of 5 and 20 mg/l added/24 hr)(1); in a CO2 evolution study, di-n-octyl adipate was observed to biodegrade 94% over a 35-day incubation period which corresponds to a first-order half-life of 2.7 days(1).
Bioaccumulative potential	A whole-fish BCF of 27 was observed for blue-gill fish exposed di-n-octyl adipate levels of 250 ug/l for a 28-day period(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in soil	Using a structure estimation method based on molecular connectivity indices(1), the Koc for di-n-octyl adipate can be estimated to be 57,000(SRC). According to a classification scheme(2), this estimated Koc value suggests that di-n-octyl adipate is expected to be immobile in soil.
Other adverse effects	The rate constant for the vapor-phase reaction of di-n-octyl adipate with photochemically-produced hydroxyl radicals has been estimated as 2.4X10-11 cu cm/molecule-sec at 25 °C(1). This corresponds to an atmospheric half-life of about 0.67 days at an atmospheric concentration of 5X10+5 hydroxyl radicals per cu cm(1).

SECTION 13: Disposal considerations

Product disposal methods	Send residues to a licensed chemical destruction facility or controlled incineration with flue-gas scrubbing where legally permitted. Do not discharge to sewers or contaminate water, food or feed. Triple-rinse containers before recycling/reconditioning, or render them unusable and dispose of them under local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal 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 regulated as dangerous goods
Transport hazard class(es)	Not regulated as dangerous goods
Packing group	Not regulated as dangerous goods
Environmental hazards / Marine pollutant	No ADR/RID, IMDG or IATA environmental transport hazard is reported in the public ChemicalBook SDS
Special precautions for user	The generic ChemicalBook SDS does not assign an ADR/RID, IMDG or IATA UN entry; the non-DG decision uses ChemScene's published UN#/Class/Packing Group = N/A safety panel. Confirm each shipment against the current Richest SDS and applicable modal rules.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	EC 204-652-9. The public SDS lists the substance in EINECS/EC Inventory, TSCA and China IECSC and does not list it in the China Catalog of Hazardous Chemicals 2015. Solechem lists FEMA 4476; any food, food-contact or cosmetic use requires separate grade-specific compliance review.

SECTION 16: Other information

Full text of H-Statements	H315 Causes skin irritation; H319 Causes serious eye irritation
Revision date	2026-11-16
Version	1.0
References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: Dioctyl adipate, CAS 123-79-5 — commercial specifications, properties, GHS, packaging and HS code: https://www.solechem.eu/products/cas-123-79-5/ | Dioctyl adipate Safety Data Sheet, CAS 123-79-5: https://www.chemicalbook.com/msds/Dioctyl-adipate.htm | Dioctyl adipate product safety information, CAS 123-79-5: https://www.chemscene.com/product/123-79-5.html | Adipic acid, bis-n-octyl ester, DRE-C10046260: https://www.lgcstandards.com/US/en/Adipic-acid-bis-n-octyl-ester/p/DRE-C10046260 | Subheading 291712 — Adipic acid, its salts and esters: https://www.trade-tariff.service.gov.uk/commodities/2917120000 | PubChem Dioctyl Adipate (CID 31271): https://pubchem.ncbi.nlm.nih.gov/compound/31271
Abbreviations	CAS: Chemical Abstracts Service; ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road; IMDG: International Maritime Dangerous Goods; IATA: International Air Transport Association; SDS: Safety Data Sheet.
Disclaimer	The information in this SDS applies to the specified product and is provided in good faith based on information available to Richest Group at the date of issue. It describes health, safety and environmental requirements and does not constitute a guarantee of product properties. Users must assess suitability and comply with applicable regulations.