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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product	Alpha Lipoic Acid (DL/α-Lipoic Acid)	**Revision date**	2026-11-16
Version	1.0	**Brand**	Richest

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

Product name	Alpha Lipoic Acid (DL/α-Lipoic Acid)
Synonyms	α-Lipoic Acid; DL-alpha-Lipoic Acid; Thioctic Acid; 1,2-Dithiolane-3-pentanoic acid
CAS No.	1077-28-7
EC No.	214-071-2
Molecular formula	C8H14O2S2
Molecular weight	206.33 g/mol
Relevant identified uses	Antioxidant ingredient for dietary-supplement and nutrition formulations, subject to applicable local ingredient rules; Laboratory and formulation raw material where USP-grade alpha-lipoic acid is specified
Uses advised against	No specific uses advised against were identified in the reviewed sources.
Company	Richest Group
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SECTION 2: Hazards identification

GHS Classification	Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2
Pictogram(s)	GHS07, GHS09
Signal word	Warning
Hazard statement(s)	H302 Harmful if swallowed; H315 Causes skin irritation; H317 May cause an allergic skin reaction; H319 Causes serious eye irritation; H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)	P264; P270; P273; P280; P301+P312; P302+P352; P305+P351+P338; P333+P313; P337+P313; P362+P364; P391; P501
Other hazards	No other hazards were identified in the reviewed sources.

SECTION 3: Composition/information on ingredients

Component	Alpha Lipoic Acid (DL/α-Lipoic Acid)
CAS No.	1077-28-7
EC No.	214-071-2

SECTION 3: Composition/information on ingredients	
Classification	Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2
Concentration	99.0–101.0% on dried basis

SECTION 4: First-aid measures	
If inhaled	Move to fresh air and keep comfortable for breathing. Obtain medical advice if symptoms persist.
In case of skin contact	Wash with plenty of soap and water. Remove contaminated clothing and obtain medical advice if irritation or an allergic reaction occurs.
In case of eye contact	Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do. Continue rinsing and seek medical advice if irritation persists.
If swallowed	Rinse mouth. Call a poison centre or doctor if unwell; do not induce vomiting unless directed by medical personnel.
Most important symptoms and effects	Irritant effects, depressed respiration, convulsions and tiredness are reported (ChemicalBook SDS). Selleck SDS/HSDB lists excessive salivation and eye-watering at low doses and severe nausea/vomiting, salivation, sweating, bradycardia, hypotension, collapse and convulsions after acute exposure. Skin and eye irritation and possible allergic skin reaction are also identified by Merck product 62320.
Indication of immediate medical attention	Treat symptomatically. Show this safety data sheet to medical personnel.

SECTION 5: Fire-fighting measures	
Suitable extinguishing media	Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.
Unsuitable extinguishing media	None known (Selleck S3996 SDS); ChemicalBook SDS states that no limitations of extinguishing agents are given.
Special hazards arising from the chemical	Combustible. Carbon oxides and sulfur oxides may form in a fire; finely distributed dust may present a dust-explosion hazard (ChemicalBook SDS; Aadhunik SDS).
Advice for firefighters	Firefighters should wear full protective clothing and self-contained breathing apparatus. Collect contaminated firefighting water where practicable.

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	Avoid dust generation and breathing dust. Use suitable personal protection, prevent entry into drains and waterways, and collect the material mechanically into a labelled container for disposal. Wash the area only after the spilled solid has been removed.

SECTION 7: Handling and storage	
Precautions for safe handling	Avoid contact with skin and eyes and avoid breathing dust. Do not eat, drink or smoke while handling. Wash thoroughly after use and remove contaminated clothing before reuse.
Conditions for safe storage, including incompatibilities	Keep tightly closed in a cool, dry, well-ventilated place. Protect from light, heat and incompatible materials; retain the supplier container and label.

SECTION 8: Exposure controls/personal protection	
Occupational exposure limit values	Airborne exposure limits are not established by any regulating body according to the Aadhunik alpha-Lipoic Acid SDS.
Biological limit values	No biological limit values were identified in the reviewed sources.
Appropriate engineering controls	Use local exhaust ventilation or enclosed handling where dust can be generated; provide eyewash and washing facilities.
Eye/face protection	Wear approved respiratory protection, chemically compatible gloves, and protective clothing.
Skin and body protection	Wear approved respiratory protection, chemically compatible gloves, and protective clothing.
Respiratory protection	Use suitable respiratory protection if exposure limits may be exceeded or dust, mist or vapour is generated.
Thermal hazards	Avoid heat, sparks, open flames and other ignition sources (Aadhunik SDS; Selleck S3996 SDS).

SECTION 9: Physical and chemical properties	
Physical state	Yellow crystalline powder
Colour	Forms yellowish flakes
Odour	No data available
Melting point / freezing point	60-62 °C
Boiling point / boiling range	[162.5]
Flammability	Combustible (ChemicalBook SDS).
Explosion / flammability limits	Finely divided dust may present a dust-explosion potential when whirled up (ChemicalBook SDS).
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	Pass
Viscosity	Not applicable to the solid as supplied.
Solubility	Insoluble; Soluble in methanol, ethanol, diethyl ether and chloroform
Partition coefficient n-octanol/water	[2.1]
Vapour pressure	No data available
Density and/or relative density	Approximately 1.4 g/cm³ at 23 °C (Merck product 62320; ChemicalBook SDS).
Relative vapour density	No data available
Particle characteristics	Yellow crystals to powder (FUJIFILM Wako product 124-05411); yellowish flakes (HSDB via PubChem).
Specific rotation	−1.0° to +1.0°
Loss on drying	NMT 0.2%
Molecular weight	206.33 g/mol
Specific rotation	-1.0° to +1.0°

SECTION 10: Stability and reactivity	
Reactivity	Chemically stable under standard ambient conditions; finely divided organic dust can present a dust-explosion potential (ChemicalBook SDS).
Chemical stability	chemical_stability: Stable under the recommended storage conditions stated by the supplier.
Possibility of hazardous reactions	No data available
Conditions to avoid	Heat, excessive dust generation, light exposure and unprotected storage outside the supplier recommendations.
Incompatible materials	Keep away from strong oxidising agents and other incompatibles identified by the batch-specific SDS.
Hazardous decomposition products	When heated to decomposition, material mits toxic fumes of /sulfur oxides/.

SECTION 11: Toxicological information	
Acute effects	Harmful if swallowed; causes skin and serious eye irritation and may cause an allergic skin reaction.
Quantitative data	No product-specific numerical acute-toxicity value is asserted here; use the actual supplied batch SDS for regulatory calculations.
Chronic effects	No confirmed carcinogenic, reproductive or chronic target-organ classification is assigned in the cited supplier SDS.
Toxicological summary	A notable case in literature demonstrated status epilepticus (SE) that subsided within a few days. The seizures were treated per normal standards for SE.
Acute toxicity	LD50 oral, male rat: 1190 mg/kg; the ChemicalBook SDS attributes this result to ECHA, and the Aadhunik SDS reports the same value.
Irritation sensitization	Skin irritation, serious eye irritation and possible allergic skin reaction are identified by Merck product 62320. Sensitization testing was positive in OECD Test Guideline 442C in-vitro studies (ChemicalBook SDS).
Genetic toxicity	Negative in an Ames test, an in-vitro chromosome aberration test in Chinese hamster lung cells, an in-vitro mammalian cell gene mutation test and a mouse micronucleus test (ChemicalBook SDS).
Skin corrosion irritation	GHS classification: Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2; H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H411 Toxic to aquatic life with long lasting effects
Serious eye damage irritation	GHS classification: Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2; H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H411 Toxic to aquatic life with long lasting effects
Sensitization	GHS classification: Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2; H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H411 Toxic to aquatic life with long lasting effects

SECTION 12: Ecological information

Hazard	H411: toxic to aquatic life with long lasting effects.
Release control	Avoid release to the environment, collect spillage and do not discharge product or contaminated washings to surface water or untreated drains.
Aquatic toxicity	Static LC50 Danio rerio 43-96 mg/L, 96 h, OECD Test Guideline 203; static EC50 Daphnia magna approximately 15.1 mg/L, 48 h, OECD Test Guideline 202; static ErC50 Pseudokirchneriella subcapitata approximately 5.51 mg/L, 72 h and EC10 approximately 0.583 mg/L, 72 h, OECD Test Guideline 201 (ChemicalBook SDS).
Persistence degradability	Approximately 26% aerobic biodegradation in 28 days; not readily biodegradable, OECD Test Guideline 301A (ChemicalBook SDS).
Bioaccumulation	Bioaccumulation is not expected based on log Pow 2.53 at 25 °C (ChemicalBook SDS).
Aquatic hazard classification	GHS aquatic-hazard classification: Acute oral toxicity Category 4; skin irritation Category 2; skin sensitisation Category 1; eye irritation Category 2A; hazardous to the aquatic environment, chronic Category 2; H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H411 Toxic to aquatic life with long lasting effects

SECTION 13: Disposal considerations

Product disposal methods	Dispose of contents and container through an authorised waste contractor in accordance with local regulations. Do not discharge residues or contaminated wash water to the environment.
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)	3077
UN Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (alpha-Lipoic Acid)
Transport hazard class(es)	9
Packing group	III
Environmental hazards / Marine pollutant	Yes; environmentally hazardous solid with H411 aquatic chronic classification
Special precautions for user	Keep packages closed, dry and protected from damage; prevent releases to soil, drains and surface water. Confirm mode-specific limited-quantity provisions before shipment.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product	identity: CAS 1077-28-7; EC 214-071-2; C8H14O2S2; 206.33 g/mol; use_restrictions: The stated grade does not itself constitute food, supplement or medicinal approval in any jurisdiction; verify ingredient status, labelling and end-use registration locally.; customs: HS 293499 is indicative and must be confirmed against destination customs rules and the actual supplied identity.

SECTION 16: Other information

Full text of H-Statements	H302 Harmful if swallowed; H315 Causes skin irritation; H317 May cause an allergic skin reaction; H319 Causes serious eye irritation; H411 Toxic to aquatic life with long lasting effects
Revision date	2026-11-16

SECTION 16: Other information

Version	1.0
References	Supplier technical documents, public SDS/COA/TDS and regulatory sources reviewed. Public data citations are listed below. Public data sources: Alpha Lipoic Acid / Thioctic Acid manufacturer and USP specification: http://www.anmol.org/alphalipoicacid-thiocticacid-manufacturers.html | Safety Data Sheet: Alpha Lipoic Acid / Thioctic Acid: http://www.anmol.org/alphalipoicacid-thiocticacid-SDS.html | Alpha Lipoic Acid product and packaging information: https://www.duoppachem.com/pharmaceutical/3448.html | Lipoic Acid, CID 864: https://pubchem.ncbi.nlm.nih.gov/compound/864 | Alpha Lipoic Acid reference-standard catalog listing: https://store.usp.org/product/1368201 | Merck/Sigma-Aldrich (±)-alpha-Lipoic Acid, product 62320: https://www.merckmillipore.com/CO/es/product/sigma/62320 | ChemicalBook Safety Data Sheet: alpha-Lipoic Acid, CAS 1077-28-7: https://www.chemicalbook.com/msds/lipoic-acid.htm | FUJIFILM Wako alpha-Lipoic Acid Standard, product 124-05411: https://labchem-wako.fujifilm.com/us/product/detail/W01W0112-0541.html | Aadhunik Industries Safety Data Sheet: alpha-Lipoic Acid / Thioctic Acid: https://aadhunikindustries.com/alphalipoicacidSDS-MSDS.html | Selleck Chemicals Safety Data Sheet: Thioctic acid, catalog S3996: https://file.selleckchem.com/extension/pdf/S3996_US_SDS.pdf
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.