

SAFETY DATA SHEET

Cat# AUR10544, Dihydrolipoic acid



Date: 9/01/2022

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

1.1 Product identifiers

Product Name : **Dihydrolipoic acid**
Product Number : AUR10544
Manufacturer : Aurora Medbiochem
Address : 938 South Andreasen Drive, Suite E
Escondido, CA 92029 USA

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Emergency telephone

Emergency Phone # : +1-760-738-1508
Fax Phone # : +1-760-738-1530

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Product/ Chemical Name	Description	Safety Information	Concentration
Dihydrolipoic acid	Pale yellow liquid	See below	100%

SECTION 3: HAZARDS IDENTIFICATION

Components	CAS Number	EC-No.	Molecular Weight	Chemical Formula
Dihydrolipoic acid	462-20-4	--	208.35	C ₈ H ₁₆ O ₂ S ₂

Emergency Overview:

Classification according to Regulation (EC) No 1272/2008

Acute toxicity: Oral (Category 4), H302
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Skin sensitization (Category 1), H317
Long-term (chronic) aquatic hazard (Category 2), H411

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

GHS Hazard statement(s):

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.

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H411: Toxic to aquatic life with long lasting effects.

GHS Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
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.

GHS Response Phrases:

HMIS Classification

Health hazard: 3
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating

Health Hazard: 4
Fire: 01
Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed

SECTION 4: FIRST AID MEASURES

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact: Wash off with soap and plenty of water.

In case of eye contact: Flush eyes with water as a precaution.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 11)

4.3 Indication of any immediate medical attention and special treatment needed No data available.

SECTION 5: FIREFIGHTING MEASURE

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products formed under fire conditions— carbon oxides, nitrogen oxides.

5.3 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 clothing.

5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Sweep up and shovel. Keep in suitable, closed containers for disposal

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces, and sources of ignition. precautionary measures against static discharge.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature : +2 to +8 °C

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection:

Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

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Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection:

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: General industrial hygiene practice.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Dihydrolipoic acid
Appearance:	White solid
pH:	No data available
Water Solubility:	Warm H ₂ O
Other Solubility:	warm EtOH
Boiling Point (°C):	254,2 °C at 1.013 hPa - OECD Test Guideline 103
Melting Point (°C):	98.06 °C
Flash Point (°C):	175,6 °C - Cleveland open cup - DIN 51376
Ignition Temperature (°C):	No data available
Density:	1,132 g/cm ³ at 20 °C

SECTION 10: STABILITY AND REACTIVITY

Property	Dihydrolipoic acid
Chemical stability	Stable under recommended storage conditions
Conditions to avoid:	Strong heating.
Materials to avoid:	Strong oxidizing agents, bases, acid anhydrides, acid chlorides
Hazardous decomposition products:	Carbon oxides, Sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Dihydrolipoic acid

Information on Toxicological Effects: LD50 Oral - Rat - female - 576 mg/kg
(OECD Test Guideline 401)

Oral: absorption

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation: Skin - Rabbit

Result: irritating - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

Respiratory or skin sensitization: Maximization Test - Guinea pig

Result: positive

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(OECD Test Guideline 406)

Germ cell mutagenicity: Test Type: Ames test
Test system: Escherichia coli/Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity: No data available

- IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
- ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Resulted in impaired fertility in animal studies. Developmental studies in rats and rabbits resulted in embryo/fetal death only at maternally toxic dosages, but no direct toxicity to the embryo/fetus.

Teratogenicity: no data available

Aspiration hazard: no data available

Potential Health Effects

Inhalation: Very toxic if inhaled. May cause respiratory tract irritation.

Skin: Very toxic if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: Very toxic if swallowed.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional information: RTECS: No data available

SECTION 12: ECOLOGICAL INFORMATION

Dihydrolipoic acid:

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

SECTION 13: DISPOSAL CONSIDERATION

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

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14.1 UN number

ADR/RID: 3082

IMDG: 3082

IATA: 3082

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Lipoic acid, reduced)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Lipoic acid, reduced)

IATA: Environmentally hazardous substance, liquid, n.o.s. (Lipoic acid, reduced)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: yes,

IMDG Marine pollutant: yes

IATA: yes

SECTION 15: REGULATORY INFORMATION

Dihydrolipoic acid

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

OSHA Hazards: No known OSHA hazards

SARA 302 Components: SARA 302: No chemical in this material is subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.

SARA 311/312 Hazards: No SARA Hazards

Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components: No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know Components: No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

EU regulations: : ENVIRONMENTAL HAZARDS

SECTION 16: OTHER INFORMATION

DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. Aurora Medbiochem Co. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.