

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-12

Print Date: 2025-09-13

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

1.1 Product identifiers

Product name	: 1,10-Phenanthroline Monohydrate
Product Number	: P104935
Brand	: aladdin
CAS-No.	: 5144-89-8

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

Identified uses	: Laboratory chemicals, Manufacture of substances.
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1.3 Company

Company	: ALADDIN SCIENTIFIC CORPORATION
Address	: 14078 Meridian Parkway, Riverside, CA. 92518
Telephone	: +1 (833) 552-7181
Fax	: no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA	: 1-800-424-9300
CHEMTREC®, Outside the USA	:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H301	Toxic if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
Precautionary statement(s)	
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

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P273	Avoid release to the environment.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: 1,10-Phenanthroline; o-Phenanthroline monohydrate;
Formula	: C ₁₂ H ₈ N ₂ ·H ₂ O
Molecular weight	: 198.22
CAS No.	: 5144-89-8
EC-NO.	: 200-629-2

Component	Classification	Concentration
1,10-Phenanthroline Monohydrate		
	no data available	ACS, ≥99%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

no data available

If inhaled

no data available

In case of skin contact

no data available

In case of eye contact

no data available

If swallowed

no data available

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

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no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

no data available

5.3 Advice for firefighters

no data available

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear a breathing mask. Prevent the generation of dust. Prevent inhalation of vapors, aerosols, or gases. Evacuate personnel to a safe area. Avoid inhaling cost

6.2 Environmental precautions

On the premise of ensuring safety, take measures to prevent further leakage or overflow. Do not allow the product to enter the sewer. Prevent discharge into the surrounding environment.

6.3 Methods and materials for containment and cleaning up

Collect and handle leaks without generating dust. Sweep and shovel away. Store in a suitable closed processing container. Refer to other sections

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid the formation of dust and aerosols. Provide suitable exhaust equipment in areas with dust generation.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep the container tightly closed and store in a dry and ventilated place. hygroscopic. Inflatable

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preservation

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin 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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection,use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

Control of environmental exposure

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	97-101°C
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available

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h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Exposed to moisture.

10.5 Incompatible materials

acid, strong oxidant

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

no data available

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Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

There are no components in this product at levels greater than or equal to 0.1% that have been identified by IARC as possible or definite human carcinogens.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

Inhalation may be harmful. May cause respiratory irritation.

Additional Information

no data available

SECTION 12: Ecological information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Toxic to aquatic organisms and has long-lasting effects. Avoid release into the environment.

SECTION 13:

Phone: +1 (833) 552-7181 Email: QualityAssurance@aladdinsci.com Website: <https://www.aladdinsci.com/>

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13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 2811

Packing group: III

Class: 6.1

Proper shipping name: TOXIC SOLID,
ORGANIC, N.O.S. (o-Phenanthroline
hydrate)Reportable Quantity(RQ): no data
availablePoison Inhalation Hazard: no data
available

Environmental Hazards: No

IMDG

UN number: 2811

Packing group: III

EMS-No: no data available

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (o-Phenanthroline hydrate)

IATA

UN number: 2811

Packing group: III

Class: 6.1

Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (o-Phenanthroline hydrate)

SECTION 15: Regulatory information

no data available

SECTION 16: Other information

Prepared By

Regulatory Affairs

ALADDIN SCIENTIFIC CORPORATION

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SDS sections updated v1

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