

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 01.20.2018

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1, 10-Phenanthroline

SECTION 1: Identification

Product identifier

Product name: 1, 10-Phenanthroline

Product code: S25461C

Recommended use of the product and restriction on use

Relevant identified uses: Not determined or not applicable.

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

AquaPhoenix Scientific
860 Gitts Run Road
Hanover
PA 17331
(717) 632-1291

Supplier:

Fisher Science Education
6771 Silver Crest Road
Nazareth
PA 18064
800 955-1177

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification:

Acute toxicity (oral), category 3

Chronic aquatic hazard, category 1

Acute aquatic hazard, category 1

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H301 Toxic if swallowed

H410 Very toxic to aquatic life with long lasting effects

H400 Very toxic to aquatic life

Precautionary statements:

P264 Wash skin thoroughly after handling

P270 Do not eat, drink or smoke when using this product

P273 Avoid release to the environment

P321 Specific treatment (see supplemental first aid instructions on this label).

P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

P391 Collect spillage

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P405 Store locked up

P501 Dispose of contents and container as instructed in Section 13

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 5144-89-8	1,10-Phenanthroline Monohydrate	100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Get medical advice/attention if you feel unwell

After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

If symptoms develop or persist, seek medical attention

After swallowing:

Rinse mouth thoroughly

Seek medical attention if irritation, discomfort, or vomiting persists

Immediately call a POISON CONTROL CENTER or seek medical attention

Do not induce vomiting

Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

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Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion
Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:

Should not be released into the environment
Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing
Sweep or scoop up solid material while minimizing dust generation
Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.
Avoid breathing dust.
Do not eat, drink, smoke or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.
Keep container dry.
Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
United States (OSHA)	1,10-Phenanthroline Monohydrate	5144-89-8	OSHA PEL TWA (Total Dust) 15 mg/m ³ (50 mppcf*).
ACGIH	1,10-Phenanthroline Monohydrate	5144-89-8	ACGIH TLV TWA (inhalable particles) 10 mg/m ³ .

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

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Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and at the end of work.

Wash contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White solid
Odor	Odorless
Odor threshold	Not available
pH	Not available
Melting point/freezing point	>98° C
Initial boiling point/range	Not available
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Non Explosive
Lower flammability/explosive limit	Non Explosive
Vapor pressure	Not available
Vapor density	6.2
Density	Not available
Relative density	Not available
Solubilities	Soluble in water
Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	Not available
Dynamic viscosity	Not available
Kinematic viscosity	Not available

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Explosive properties	Not available
Oxidizing properties	Not available

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Hygroscopic - absorbs moisture or water from the air

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

Incompatible materials. Dust generation. Exposure to moisture or water.

Incompatible materials:

Strong acids. Strong oxidizers.

Hazardous decomposition products:

Carbon oxides (CO, CO₂). Nitrogen oxides (NO, NO₂).

SECTION 11: Toxicological information

Acute toxicity

Assessment: Toxic if swallowed

Product data: No data available.

Substance data: No data available.

Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive toxicity

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Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Very toxic to aquatic life

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	2811
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UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S. (1,10-Phenanthroline)
UN transport hazard class(es)	6.1 
Packing group	III
Environmental hazards	None
Special precautions for user	None
Excepted quantities	30g/30mL
Passenger air/rail	100KG
Cargo aircraft only	200KG
Stowage category	A

International Maritime Dangerous Goods (IMDG)

UN number	2811
UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S. (1,10-Phenanthroline)
UN transport hazard class(es)	6.1 
Packing group	III
Environmental hazards	None
Special precautions for user	None
Excepted quantities	30g/30mL
Limited quantity	5KG

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	2811
UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S. (1,10-Phenanthroline)
UN transport hazard class(es)	6.1 
Packing group	III
Environmental hazards	None
Special precautions for user	None
ERG code	154
Excepted quantities	30g/30mL
Passenger and cargo	100KG
Cargo aircraft only	200KG
Limited quantity	5KG

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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Significant New Use Rule (TSCA Section 5): Not determined.

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Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals:

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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New Jersey Right to Know:

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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New York Right to Know:

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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Pennsylvania Right to Know:

5144-89-8	1,10-Phenanthroline Monohydrate	Not Listed
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California Proposition 65: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 2-0-0

HMIS: 2-0-0

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End of Safety Data Sheet