



Material Safety Data Sheet 1, 10-Phenanthroline, Monohydrate

Section 1 - Chemical Product and Company Identification

MSDS Name:

1, 10-Phenanthroline, Monohydrate

Catalog Numbers:

LC18140

Synonyms:

o-Phenanthroline monohydrate, 4,5-Phenanthroline monohydrate

Company Identification:

LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
5144-89-8	1,10-Phenanthroline monohydrate	100

Section 3 - Hazards Identification

Emergency Overview

Appearance: Off-white solid

Caution! Harmful if swallowed. Causes respiratory tract irritation. Causes eye and skin irritation.
May be harmful if absorbed through skin or if inhaled.

Target Organs: *Eyes, skin, mucous membranes*

Potential Health Effects

Eye:

Causes eye irritation.

Skin:

Causes skin irritation. May be harmful if absorbed through the skin. The toxicological properties of this material have not been fully investigated.

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated. The anhydrous form of this substance is harmful if swallowed.

Inhalation:

Causes respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. May be harmful if inhaled.



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Chronic:

No information found.

Section 4 - First Aid Measures

Eyes:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media:

Use extinguishing media most appropriate for the surrounding fire.

Autoignition Temperature:

Not available.

Flash Point:

Not available.

NFPA Rating:

Not available.

Explosion Limits:

Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.



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Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
1,10-Phenanthroline monohydrate	none listed	none listed	none listed

OSHA Vacated PELs:

1,10-Phenanthroline monohydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment**Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State:	Solid
Color:	Off-white
Odor:	Weak odor
pH:	Not available
Vapor Pressure:	Not available
Vapor Density:	6.2
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	Not available
Freezing/Melting Point:	>98°C
Decomposition Temperature:	Not available



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Solubility in water: Slightly soluble in water
Specific Gravity/Density: Not available
Molecular Formula: C₁₂H₈N₂.H₂O
Molecular Weight: 198.23

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Dust generation, excess heat.

Incompatibilities with Other Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization:

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 5144-89-8: SF8437000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 5144-89-8: Not listed by ACGIH, IARC, NTP, or California Proposition 65.

Epidemiology:

No information available.

Teratogenicity:

No information available.

Reproductive:

No information available.

Mutagenicity:

See actual entry in RTECS for complete information.

Neurotoxicity:

No information available.

Section 12 - Ecological Information

No information found.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.



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Section 14 - Transport Information

US DOT

Shipping Name: Not regulated
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 5144-89-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

SARA Reportable Quantities (RQ):

None of the chemicals in this material have an RQ.

CERCLA/SARA Section 313:

No chemicals are reportable under Section 313.

OSHA - Highly Hazardous:

Not considered highly hazardous by OSHA

US State

State Right to Know:

CAS# 5144-89-8 is not present on state lists from California, Pennsylvania, Minnesota, Massachusetts, Florida, or New Jersey.

California Regulations:

None

European/International Regulations

Canadian DSL/NDSL:

CAS# 5144-89-8 is not listed on the Canadian DSL List. The anhydrous form is listed.

Canada Ingredient Disclosure List:

CAS# 5144-89-8 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: August 16, 2007

Revision Date: None

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