

MATERIAL SAFETY DATA SHEET

1,10-Phenanthroline,

SECTION 1 . Product and Company Identification

Product Name and Synonym: 1,10-Phenanthroline,
Product Code: P1938
Material Uses:
Manufacturer: Science Stuff
1104 Newport Ave
Austin, TX 78753
(512) 837-6020
Entry Date : 6/13/2013
Print Date: 6/13/2013
24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

Health:	2
Flammability:	1
Reactivity:	0
Hazard Rating: Least Slight Moderate High Extreme 0 1 2 3 4	
NA=Not Applicable NE=Not Established	

SECTION 2 HAZARD IDENTIFICATION

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

Physical state: Solid. [Solid crystalline powder.]
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview:

WARNING!
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
MAY BE HARMFUL IF INHALED
HARMFUL IF SWALLOWED.
Toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment.

Do not ingest.
Do not get in eyes or on skin or clothing.
Avoid contact with skin and clothing.
Keep container tightly closed and sealed until ready for use. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry:
Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects:

Eyes: Irritating to eyes.
Skin: May be harmful in contact with skin. Irritating to skin.
Inhalation: Irritating to respiratory system.
Ingestion: Toxic if swallowed.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity/ Reproductive toxicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards
Medical conditions aggravated by over-exposure: None known

1,10-Phenanthroline,

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
<input type="checkbox"/>	1,10-Phenanthroline, Monohydrate	CAS# 5144-89-8	100%	W/W	

SECTION 4 FIRST AID MEASURES

May be fatal if inhaled, swallowed or absorbed thru the skin Avoid all contact. Use with adequate ventilation. Wash thoroughly after use. Keep container closed.

FIRST AID: SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: If swallowed, induce vomiting immediately after giving two glasses of water. Never give anything by mouth to an unconscious person.

SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Water spray, Carbon dioxide, dry chemical.large fires use alcohol foam or h2o spray/fog
Fire / Explosion Hazards:	Negligible fire hazard when exposed to heat or flame
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Sweep up and place in suitable (fiberboard) containers for reclamation or later disposal.

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personal from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7 HANDLING AND STORAGE

Store in a cool, dry, well-ventilated place away from incompatible materials. Wash thoroughly after handling.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: NIOSH approved dust mask

1,10-Phenanthroline,

Ventilation

Local Exhaust

Mechanical

Protective Gloves:

impervious gloves

Eye Protection:

Safety Glasses w/
Side Shields

Other Protective Equipment:

Wear appropriate clothing to prevent skin exposure. eye wash and chemical shower.

Consult local authorities for acceptable exposure limits.

Engineering measures: Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal Protection

Eyes: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended:

safety glasses with side-shields,

Skin: Personal protective equipment for the body should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Body recommended:

lab coat and gloves

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	0°c	Percent Volatile by Volume:	information not available
Boiling Point:	100°c	Evaporation Rate	>1H2o
Vapor Pressure:	14(H2O)	Evaporation Standard	Ether =1
Vapor Density:	0.7(H2O)	Auto Ignition Temp	information not available

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Solubility in Water:	completely	Lower Flamm. Limit in Air	information not available
Appearance /Odors:	liquid	Upper Flamm. Limit in Air	information not available
Flash Point:	information not available		
Specific Gravity:	1		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability:	yes
Conditions to Avoid:	Avoid contact with incompatible materials.
Materials to Avoid:	avoid H2O-reactive, ferrous sulfate, oleum sodium
Hazardous Decomposition Products:	this type of hazard is negligible
Hazardous polymerization:	Will Not Occur
Conditions to Avoid:	None known

SECTION 11 Toxicological Information

Carcinogenic effects: No known significant effects or critical hazards.
Mutagenic effects: No known significant effects or critical hazards.
Teratogenicity/Reproductive toxicity: No known significant effects or critical hazards.

SECTION 12 Ecological Information

Environmental effects : No known significant effects or critical hazards.
Other adverse effects : No known significant effects or critical hazards.

SECTION 13 Disposal Considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14 Transport Information

DOT Classification: UN2811, Toxic Solid, Organic, n.o.s. (1,10-Phenanthroline), 6.1, PG III

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

United States

HCS Classification:
Toxic material
Irritating material

U.S. Federal regulations:

United States inventory (TSCA 8b): listed
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notifications: No products were found.
SARA 302/304/311/312 hazardous chemicals: o-Phenanthroline
SARA 311/312 MSDS distribution- Chemical inventory- hazard identification: o-Phenanthroline
Immediate (acute) health hazard, Delayed (chronic) health hazard

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Clean Water Act (CWA) 307: No products were found
Clean Water Act (CWA) 311: No products were found
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substance: No products were found.
Clean Air Act (CAA) 112 regulated toxic substance: No products were found.
DEA List I Chemicals : not listed
(Precursor Chemicals)
DEA List II Chemicals : not listed
(essential Chemicals)

Canada
WHMIS (Canada) :
Class D-2B: Material causing other toxic effects (Toxic)
Class D-1B: Material causing immediate and serious toxic effects (Toxic)

Canadian lists :
CEPA Toxic Substance: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

CEPA DSL/ CEPA NDSL : CEPA DSL:
This material is listed or exempted
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16 Additional Information

Flammability

Health

Reactivity

Revisions	NFPA	
12/11/2012	0	Creation date 3/4/2009 LS
12/12/2012	0.1	Revised to 16 sections LS

The information herein is believed to be accurate and is offered in good faith for the user's consideration and investigation. No warranty either expressed or implied is made for the completeness or accuracy of the information whether originating from the above mentioned company or not. Users of this material should satisfy themselves by independent investigation of current scientific and medical knowledge that the material can be used safely.