

CHAITANYA CHS, 2nd FLOOR, OFFICE # 206, SIDDHARTH NAGAR, S.V.ROAD, GOREGAON (W), MUMBAI 400062, MH, INDIA.
CONTACT: +9122 28725393 /94/ 95 | EMAILID: CARE@SUVCHEM.COM

MATERIAL SAFETY DATA SHEET (MSDS)

1,10-PHENANTHROLINE AR (MONOHYDRATE) (REDOX INDICATOR)

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : 1,10-PHENANTHROLINE AR (MONOHYDRATE) (REDOX INDICATOR)
Product code : P0155800025
Identification of the product : 1,10-PHENANTHROLINEAR 99.5%
CAS No: 5144-89-8

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

Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : SUVCHEM
Chaitanya Tower, 2nd Floor, Office # 206,
Siddharth Nagar, S.V. Road,
Goregaon (West), Mumbai - 400062,
Maharashtra, India.
Contact: +91 22 28725393 / 94 / 95
Email ID: info@suvchem.com/care@suvchem.com

1.4. Emergency telephone number

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [Office hours]

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification : T; R25
N; R50-53

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Acute toxicity, Oral - Category 3 - Danger (CLP : Acute Tox. 3) H301
Environmental hazards : Hazardous to the aquatic environment - Acute hazard - Category 1 - Warning (CLP : Aquatic Acute 1) H400
Hazardous to the aquatic environment - Chronic hazard - Category 1 - Warning (CLP : Aquatic Chronic 1) H410

2.2. Label elements

Labelling EC 67/548 or EC 1999/45

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2. Hazards identification -DSD (continued)

Symbol(s)



Symbol(s)

: T : Toxic
N : Dangerous for the environment

R Phrase(s)

: R25 : Toxic if swallowed.
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrase(s)

: S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).
S60 : This material and its container must be disposed of as hazardous waste.
S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.

Labelling Regulation EC 1272/2008 (CLP)

Hazard pictograms



Signal words

: Danger

Hazard statements

: H301 : Toxic if swallowed.
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statements

• Prevention

: P273: Avoid release to the environment.
P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

• Response

: P301+P310: IF SWALLOWED : Immediately call a POISON CENTER or doctor.
P391: Collect spillage.

• Storage

: P405: Store locked up.

• Disposal considerations

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Other hazards

: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation

: 1,10-PHENANTHROLINEAR 99.5%

Substance.

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3. Composition/information on ingredients (continued)

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures
4.1. Description of first aid measures

Inhalation	: Assure fresh air breathing. Allow the victim to rest.
Skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
Eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
Ingestion	: Immediately call a POISON CENTER or doctor. Specific treatment (see on this label). Do NOT induce vomiting. Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms relating to use : Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

General information : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures
5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.
Surrounding fires	: Use water spray or fog for cooling exposed containers.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

Protection against fire	: Do not enter fire area without proper protective equipment, including respiratory protection.
Special procedures	: Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

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6. Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection.
Ventilate area.

For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Clean up methods : On land, sweep or shovel into suitable containers. Minimize generation of dust.
Store away from other materials.

6.4. Reference to other sections

See section 8. Exposure controls/personal protection

7. Handling and storage
7.1. Precautions for safe handling

Handling : Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Technical protective measures : Provide good ventilation in process area to prevent formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Storage - away from : Strong bases. Strong acids. Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection
8.1. Exposure controls

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8. Exposure controls/personal protection (continued)

Personal protection	: Avoid all unnecessary exposure.
• Respiratory protection	: Wear approved mask.
• Hand protection	: Wear protective gloves.
• Eye protection	: Chemical goggles or safety glasses.
• Others	: When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits	: No data available.
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9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state at 20 °C	: Solid.
Colour	: White powder
Odour	: N/A
Odour threshold	: No data available.
pH value	: Not applicable.
Melting point [°C]	: 88 °C
Decomposition point [°C]	: N/A
Critical temperature [°C]	: N/A
Auto-ignition temperature [°C]	: N/A
Flammability (solid, gas)	: N/A
Flash point [°C]	: N/A
Boiling point [°C]	: N/A
Initial boiling point [°C]	: N/A
Final boiling point [°C]	: N/A
Evaporation rate	: N/A
Vapour pressure [20°C]	: N/A
Vapour pressure mm/Hg	: N/A
Vapour density	: 6,2
Density [g/cm³]	: N/A
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: Soluble in water
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A

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9. Physical and chemical properties (continued)Viscosity at 40°C [mm²/s] : N/A**9.2. Other information**

Explosive properties : N/A
Explosion limits - upper [%] : N/A
Explosion limits - lower [%] : N/A
Oxidising properties : No data available.

10. Stability and reactivity**10.1. Reactivity**

Reactivity : Not established.

10.2. Chemical stability

Chemical stability : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Not established.

10.4. Conditions to avoid

Conditions to avoid : Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Materials to avoid : Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide.

11. Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

- Inhalation : Based on available data, the classification criteria are not met.
- Dermal : Based on available data, the classification criteria are not met.
- Ingestion : Toxic if swallowed.

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11. Toxicological information (continued)

Corrosion	: Based on available data, the classification criteria are not met.
Irritation	: Based on available data, the classification criteria are not met.
Sensitization	: Based on available data, the classification criteria are not met.
Mutagenicity	: Based on available data, the classification criteria are not met.
Carcinogenicity	: Based on available data, the classification criteria are not met.
Toxic for reproduction	: Based on available data, the classification criteria are not met.
STOT-single exposure	: Based on available data, the classification criteria are not met.
STOT-repeated exposure	: Based on available data, the classification criteria are not met.
Aspiration hazard	: Based on available data, the classification criteria are not met.

12. Ecological information
12.1. Toxicity

Toxicity information : Very toxic to aquatic life with long lasting effects.

12.2. Persistence - degradability

Persistence - degradability : May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations
13.1. Waste treatment methods

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
 Dispose of this material and its container to hazardous or special waste collection

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13. Disposal considerations (continued)

Special precautions : point, in accordance with local, regional, national and/or international regulation.
 : Hazardous waste due to toxicity.

14. Transport information
14.1. Land transport (ADR-RID)

UN N° : 2811
 H.I. nr : 60
 ADR - Class : 6.1
 Labelling - Transport : 6.1 : Toxic substances.



ADR - Classification code : T2
 ADR - Group : III

14.2. Sea transport (IMDG) [English only]

UN N° : 2811
 IMO-IMDG - Class or division : 6.1 : Toxic substances.
 IMO-IMDG - Packing group : III

14.3. Air transport (ICAO-IATA) [English only]

UN N° : 2811
 IATA - Class or division : 6.1 : Toxic substances.
 IATA - Packing group : III

15. Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.
 REACH Restrictions - Annex XVII : The components of this product are not subject to restrictions.
 REACH Authorisation - Annex XIV : The components of this product are not subject to authorization.

15.2. Chemical Safety Assessment

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1,10-PHENANTHROLINE AR (MONOHYDRATE) (REDOX INDICATOR)

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

DISCLAIMER:

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

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