

Material Safety Data Sheet



1,10-PHENANTHROLINE HCl AR
(Redox Indicator)

VERSION : 05
REVISION DATE : 14/06/2025
EFFECTIVE DATE : 16/06/2025

Product Code : 24641

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

1.1. Product identifier

Trade name : **1,10-PHENANTHROLINE HCl AR** (Redox Indicator)
Product code : 24641
Identification of the product : **1,10-PHENANTHROLINE HCl AR** (Redox Indicator)
CAS No : 18851-33-7

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3. Details of the supplier of the safety data sheet

Company identification

MOLYCHEM INDIA LLP
Office: Maker Tower 'E', 41-A2, 4th Floor, Above Maker Arcade, Cuffe Parade, Mumbai 400 005 (INDIA)
Tel: +91 22 4066 8111, 2205 7772 .
Email : info@molychem.net
Works: Plot No. B/9, Badlapur M.I.D.C.,
OPP.Shobhavat Textile Co., Kulgaon, Badlapur (E),
Dist.-Thane-421 503.

1.4. Emergency telephone number

Emergency number : +91 22 4066 8111 (10:00am - 6:00 pm)

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute toxicity (oral), Category 3 H301
Hazardous to the aquatic environment — H410
Chronic Hazard, Category 1

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP)



GHS09

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Signal word (CLP) : Danger
Hazard statements (CLP) : H301 - Toxic if swallowed
H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (CLP) : P273 - Avoid release to the environment
P301+P310 - IF SWALLOWED: immediately call a
POISON CENTER or doctor/physician
P501 - Dispose of contents/container to ...

2.3. Other hazards

No additional information available

3. Composition/information on ingredients

3.1. Substances

Name : 1,10-PHENANTHROLINE HCl AR (Redox Indicator)
CAS-No : 18851-33-7

3.2. Mixtures

Not applicable

4. First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact : Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice

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

Symptoms/effects after ingestion : Toxic if swallowed.

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

Treat symptomatically.

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5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.
Emergency procedures : Stop release.

6.2. Environmental precautions

Very toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clear up rapidly by scoop or vacuum

6.4. Reference to other sections

For further information refer to section 13.

7. Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not get in eyes, on skin, or on clothing.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash

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... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed.
Store in a dry place. Protect from moisture.
Storage away from : Direct sunlight. Air contact. Moisture.

7.3. Specific end use(s)

No additional information available

8. Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Eye protection : Chemical goggles or safety glasses
Hand protection : Wear protective gloves
Skin protection : Wear suitable protective clothing
Respiratory protection : Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Solid
Appearance : powder or crystals or crystalline powder
Molecular mass : 234.69
Colour : White to off white or slightly pinkish white
Odour : No data available
Odour threshold : No data available
pH : No data available
Relative evaporation rate : No data available
Melting point : 224 - 225
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available

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Relative density	: No data available
Density	: No data available
Solubility	: Water: Soluble in water
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

10. Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Skin corrosion/irritation	: Not classified
Additional information	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

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STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

12. Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

13. Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as nonhazardous waste.

Additional information : Hazardous waste due to toxicity

14. Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number

UN-No. (ADR) : 2811
UN-No. (IMDG) : 2811
UN-No. (IATA) : 2811
UN-No. (ADN) : 2811
UN-No. (RID) : 2811

14.2. UN proper shipping name

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Proper Shipping Name (ADR)	: TOXIC SOLID, ORGANIC, N.O.S.
Proper Shipping Name (IMDG)	: TOXIC SOLID, ORGANIC, N.O.S.
Proper Shipping Name (IATA)	: TOXIC SOLID, ORGANIC, N.O.S.
Proper Shipping Name (ADN)	: TOXIC SOLID, ORGANIC, N.O.S.
Proper Shipping Name (RID)	: TOXIC SOLID, ORGANIC, N.O.S.
Transport document description (ADR)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description(IMDG)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2811 TOXIC SOLID, ORGANIC, N.O.S., 6.1, III, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 6.1
Danger labels (ADR) : 6.1

IMDG

Transport hazard class(es) (IMDG) : 6.1
Danger labels (IMDG) : 6.1

IATA

Transport hazard class(es) (IATA) : 6.1
Danger labels (IATA) : 6.1

ADN

Transport hazard class(es) (ADN) : 6.1
Danger labels (ADN) : 6.1

RID

Transport hazard class(es) (RID) : 6.1
Danger labels (RID) : 6.1

14.4. Packing group

Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes

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Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR) : T2
Limited quantities (ADR) : 5kg
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P002, IBC08, LP02, R001
Mixed packing provisions (ADR) : MP10
Portable tank and bulk container instructions (ADR) : T1
Portable tank and bulk container special provisions (ADR) : TP33
Tank code (ADR) : SGAH, L4BH
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S9
Hazard identification number (Kemler No.) : 60
Tunnel restriction code (ADR) : E
EAC code : 2X

Transport by sea

Limited quantities (IMDG) : 223, 274
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002
IBC packing instructions (IMDG) : IBC08
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-A
Stowage category (IMDG) : A
MFAG-No : 154

Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y645
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 670
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 677
CAO max net quantity (IATA) : 200kg
ERG code (IATA) : 6L

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Inland waterway transport

Classification code (ADN) : T2
Limited quantities (ADN) : 5 kg
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : T2
Limited quantities (RID) : 5kg
Excepted quantities (RID) : E1
Packing instructions (RID) : P002, IBC08, LP02, R001
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T1
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAH, L4BH
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 60

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

15. Regulatory information

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

15.1.1 EU-Regulations

No REACH Annex XVII restrictions
1,10-PHENANTHROLINE HYDROCHLORIDE is not on the REACH Candidate List
1,10-PHENANTHROLINE HYDROCHLORIDE is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

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16. Other information

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand
COD	Chemical oxygen demand
COD	Chemical oxygen demand
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds

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CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties
Full text of H- and EUH-statements	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

Safety Data Sheet (SDS), EU This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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