


<b>Material Safety Data Sheet</b>	
<b>1,10-PHENANTHROLINE HCL AR</b> (Redox Indicator)	<b>VERSION : 03</b> <b>DATE OF ISSUE : 31-01-2022</b> <b>SUPERSEDES : 02</b>
<b>Product Code : 24641</b>	<b>Page 1 of 8</b>

## **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**

**Use :** Industrial. For professional use only.

### **1.3. Details of the supplier of the safety data sheet**

**Company identification :** MOLYCHEM

Office: 78/80 Babu Genu Road, Souri Bldg., 2nd Floor,  
Mumbai – 400 002 (INDIA)

Tel:+91 22 4066 8111, 2205 7772 . Fax: + 91 22 2203 4442.

Email : [info@molychem.net](mailto: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

Acute toxicity, Oral (Category 3), H301

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

### **2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display Extra classification(s) to display**

**Symbol(s) :** N: Dangerous for the environment



**R Phrase(s) :** R50/53: Very toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment.


**S Phrase(s) :** S61: avoid release to the environment . refer to special instruction/safety data sheets.

### **Hazard pictograms**

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Product Code : 24641	Page 2 of 8



**Signal word :** Danger

**Hazard statements :** H301 - Toxic if swallowed  
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary statements :** 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. Substance :

Synonyms : o-Phenanthroline  
Formula : C<sub>12</sub>H<sub>8</sub>N<sub>2</sub> · HCl · H<sub>2</sub>O  
Molecular weight : 234.68 g/mol  
CAS-No. : 18851-33-7  
EC-No. : 223-325-1

Component	Classification	Concentration
1,10-Phenanthroline chloride monohydrate		
CAS-No. 18851-33-7	Acute Tox. 3; Aquatic	< = 100 %
EC-No. 223-325- 1	Acute 1; Aquatic Chronic 1; H301, H400, H410 M-Factor - Aquatic Acute:10	

## 4. First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.


#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

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<b>Product Code : 24641</b>	<b>Page 3 of 8</b>

After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

**5. Firefighting measures :**

**5.1 Suitable extinguishing media**

Water Foam Carbon dioxide (CO2) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Nitrogen oxides (NOx)

Hydrogen chloride gas

Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**6. Accidental release measures :**

**6.1. Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**6.2. Environmental precautions**


Do not let product enter drains.

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Product Code : 24641	Page 4 of 8

### 6.3. Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4. Reference to other sections

For disposal see section 13.

## 7. Handling and storage :

### 7.1. Precautions for safe handling

For precautions see section 2.2.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

hygroscopic

#### Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : protective gloves

Eye protection : Chemical goggles or safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Wear respiratory protection

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties


Physical state	: Solid
Colour	: Colorless crystals.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 224 - 225
Freezing point	: No data available

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Product Code : 24641	Page 5 of 8

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
Relative density	: No data available
Solubility	: Water: Soluble in water
Log Pow	: No data available
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

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3. Possibility of hazardous reactions

Violent reactions possible with: Oxidizing agents

### 10.4. Conditions to avoid

Exposure to moisture. no information available

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

In the event of fire: see section 5

## 11. Toxicological information

### Information on toxicological effects

Acute toxicity :

LD50 Oral - Rat - 100 mg/kg

(Acute toxicity estimate)


Remarks: Expert judgment

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Product Code : 24641	Page 6 of 8

Inhalation: No data available  
Dermal: No data available  
Skin corrosion/irritation : No data available  
Serious eye damage/irritation : No data available  
Respiratory or skin sensitisation : No data available  
Germ cell mutagenicity : No data available  
Carcinogenicity : No data available  
Reproductive toxicity : No data available  
Specific target organ toxicity (single exposure) : No data available  
Specific target organ toxicity (repeated exposure) : No data available  
Aspiration hazard : No data available

## **12. Ecological information**

### **12.1. Toxicity**

No data available

### **12.2. Persistence and degradability**

No data available

### **12.3. Bioaccumulative potential**

No data available

### **12.4. Mobility in soil**

No data available

### **12.5. Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

### **12.6 Endocrine disrupting properties Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.


### **12.7 Other adverse effects**

No data available

## **13. Disposal considerations**

### **13.1. Waste treatment methods**

No data available

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Product Code : 24641	Page 7 of 8

#### **14. Transport information**

##### **14.1 UN number**

ADR/RID: 2811

IMDG: 2811

IATA: 2811

##### **14.2 UN proper shipping name**

ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (1,10-phenanthroline monohydrochloride)

IMDG: TOXIC SOLID, ORGANIC, N.O.S. (1,10-phenanthroline monohydrochloride)

IATA: TOXIC SOLID, ORGANIC, N.O.S (1,10-phenanthroline monohydrochloride)

##### **14.3 Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

##### **14.4 Packaging group**

ADR/RID: III

IMDG: III

IATA: III

##### **14.5 Environmental hazards**

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: no

##### **14.6 Special precautions for user**

Tunnel restriction code : (E)

Further information : No data available

#### **15. Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

##### **National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

H2

ACUTE TOXIC

E1

ENVIRONMENTAL HAZARDS

H2

ACUTE TOXIC

E1

ENVIRONMENTAL HAZARDS

##### **Other regulations**

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.


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<b>Product Code : 24641</b>	<b>Page 8 of 8</b>

## 15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

## 16. Other information

### Abbreviations and acronyms :

PBT : persistent, bioaccumulative and toxic.

vPvB : very persistent and very bioaccumulative

### Sources of key data used :

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

### Further information : None.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008 **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

## End of document

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