

Revision: 1.1

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Section 1. Identification

1.1 Product Identifier

1625

Product Name

1,10-PHENANTHROLINE H₂O pure

CAS Number

5144-89-8

REACH Registration No

A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

Molecular Formula

C₁₂H₉N₂·H₂O =198.22

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material

Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier

Vickers Laboratories Ltd



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(Have this document to hand)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Acute toxicity, category 3 (oral)

Hazard to aquatic environment, category 1

Hazard to aquatic environment, category 1

H301: Toxic if swallowed.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word

Danger

Hazard Pictograms



Hazard Statements Toxic if swallowed. Very toxic to aquatic life with long lasting effects.

Precautionary Statements Wash thoroughly after handling. In case of fire: Collect spillage. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Avoid release to the environment.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
1,10-Phenanthroline	5144-89-8	200-629-2		>98%	Acute Tox. 3 (O), Aquatic Acute 1, Aquatic Chronic 1

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. If discomfort persists OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. If discomfort persists OBTAIN MEDICAL ATTENTION.
Inhalation	Remove from exposure.
Ingestion	Wash out the patients mouth thoroughly with water. Do not induce vomiting. OBTAIN MEDICAL ATTENTION.
Personal protection for first aiders	Wear protective gloves / eye protection.

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

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Consider what other flammable materials are present and act accordingly.
Unsuitable Media	Nothing specified.

5.2 Special hazards arising from the substance or mixture

Hazards	May evolve toxic fumes if involved in a fire.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Avoid breathing dust. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so.
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6.2 Environmental precautions

Environmental	Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
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6.3 Methods and material for containment and cleaning up

Major Spillage	Shovel/sweep up into container for removal Wash area down with copious amounts of water.
Minor Spillage	Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath dust. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains dust concentrations to a minimum.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect against moisture to prevent decomposition and corrosion.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits	
			Long Term (8hr TWA)	Short Term 15min period
1,10-Phenanthroline	5144-89-8	>98%	-	-

Exposure data source(s) No occupational exposure data currently available.

8.2 Exposure controls

Respiratory Protection If process creates significant amounts of dust use L.E.V. or wear suitable dust mask.

Hand Protection Wear gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	White crystalline powder.
Odour	No specific odour.
pH	Not applicable
Boiling Point	Not available
Melting Point	101°C
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	No.
Oxidising Properties	No.
Vapour Pressure	Not applicable
Relative Density	Not available
Water Solubility	0.3%

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1 Reactivity No data available.

10.2 Chemical Stability Stable under normal conditions

10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	Hot surfaces and naked flames.
10.5	Incompatible Materials	Strong oxidising agents.
10.6	Hazardous Decomposition Products	May produce hazardous fumes if involved in a fire.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Contact with the solid or dust may cause conjunctival irritation and corneal damage.
Skin	Contact with the solid or dust may be irritating to the skin. Repeated exposure may cause dermatitis.
LD50 Skin	Not available
Ingestion	Toxic if swallowed.
LD50 Oral	132mg/kg Rat
Inhalation	Prolonged exposure to dust or fume concentrations above the occupational exposure limits will produce irritation of the eyes and respiratory tract.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.

Section 12. Ecological

12.1	Toxicity	Toxic to fish-LC50 (Foldorfen test) <10ppm. Very Toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not 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 & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator.
Contaminated Packaging	Wash out containers with water. Use a licensed waste disposer.

Section 14. Transport Information

14.1 UN Number	2811
14.2 Proper Shipping Name	Toxic solid, organic, N.O.S. (o-Phenanthroline hydrate)
14.3 Transport classes	
UN classification	6.1
Subsidiary hazard(s)	None
Transport category	2
ADR Hazard ID	60
Tunnel Restriction Code	E
14.4 Packing Group	III
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Acute toxicity, category 3 (oral); Hazard to aquatic environment, category 1; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H301, H410
Toxic if swallowed. Very toxic to aquatic life with long lasting effects.

Precautionary Statements P264, P370, P391, P301+P312, P330, P273
Wash thoroughly after handling. In case of fire: Collect spillage. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Avoid release to the environment.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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