

Ferroin indicator solution**34531-500ML**

Version 1.3

Revision Date 08/21/2018

Print Date 10/17/2019

SECTION 1. IDENTIFICATION

Product name : Ferroin indicator solution

Number : 000000021174

Product Use Description : Laboratory chemicals

Manufacturer or supplier's details : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
+1-231-726-3171

(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : Medical: 1-800-498-5701 or +1-303-389-1414
: **Transportation (CHEMTREC): 1-800-424-9300 or**
: **+1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : no data available

Odor : no data available

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Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Precautionary statements : **Prevention:**
Use personal protective equipment as required.

Hazards not otherwise classified : Repeated or prolonged exposure may irritate eyes, skin and respiratory system.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Water	7732-18-5	>=90.00 - <=100.00 %
1,10-Phenanthroline monohydrochloride monohydrate	3829-86-5	>=1.00 - <2.50 %
Iron (II) sulfate (1:1) heptahydrate	7782-63-0	>=0.10 - <1.00 %

SECTION 4. FIRST AID MEASURES

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- General advice : Consult a physician. Show this safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin contact : Wash off with soap and plenty of water. If skin irritation persists, call a physician.
- Eye contact : Flush eyes with water as a precaution.
- Ingestion : Rinse mouth with water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to physician

- Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray jet
Foam
Carbon dioxide (CO₂)
Dry powder
- Specific hazards during firefighting : The product itself does not burn.
Fire may cause evolution of:
Sulphur oxides
Carbon oxides
nitrogen oxides (NO_x)
metal oxides
Hydrogen chloride gas
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

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Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment.
Immediately evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Ensure adequate ventilation.
Do not swallow.
Avoid breathing vapours, mist or gas.
Avoid contact with skin, eyes and clothing.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
Should not be released into the environment.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
Pick for disposal in tightly closed containers
Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

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Conditions for safe storage, including any incompatibilities : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.
Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Avoid breathing dust or spray mist.
Avoid contact with skin, eyes and clothing.

Engineering measures : Use with local exhaust ventilation.

Eye protection : Safety glasses with side-shields

Hand protection : Latex gloves
Gloves must be inspected prior to use.
Replace when worn.

Skin and body protection : Impervious clothing
Wear as appropriate:
Lab coat

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures : Take off all contaminated clothing immediately.
Remove and wash contaminated clothing before re-use.
Keep working clothes separately.
When using do not eat, drink or smoke.
Wash hands before breaks and at the end of workday.

Exposure Guidelines

Contains no substances with occupational exposure limit values.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: no data available
Odor	: no data available
Odor threshold	: Note: no data available
pH	: Note: no data available
Melting point/range	: Note: no data available
Boiling point/boiling range	: 100 °C at 1,013 hPa
Flash point	: Note: no data available
Evaporation rate	: Note: no data available
Lower explosion limit	: Note: no data available
Upper explosion limit	: Note: no data available
Vapor pressure	: Note: no data available
Vapor density	: Note: no data available
Density	: 1.00 g/cm ³ at 20 °C

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Water solubility	: Note: no data available
Partition coefficient: n-octanol/water	: Note: no data available
Auto-ignition temperature	: Note: no data available
Decomposition temperature	: Note: Hazardous decomposition products formed under fire conditions.
Viscosity, dynamic	: Note: no data available
Viscosity, kinematic	: Note: no data available
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: 692.52 g/mol

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: None known.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition products	: Fire may cause evolution of: Sulphur oxides Carbon oxides nitrogen oxides (NOx) metal oxides

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Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Note: no data available

Acute inhalation toxicity : Note: no data available

Acute dermal toxicity : Note: no data available

Skin irritation : Note: no data available

Eye irritation : Note: no data available

Sensitisation : Note: no data available

Repeated dose toxicity
Iron (II) sulfate (1:1)
heptahydrate : Species: Rat
Application Route: Oral
NOAEL (No observed adverse effect level): 100 mg/kg/d

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

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Toxicity to fish : Note: no data available

Toxicity to daphnia and other aquatic invertebrates : Note: no data available

Toxicity to algae : Note: no data available

Elimination information (persistence and degradability)

Bioaccumulation : Note: no data available

Mobility : Note: no data available

Biodegradability : Note: no data available

Further information on ecology

Additional ecological information : We have no quantitative data concerning the ecological effects of this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION**DOT** Not dangerous goods**TDG** Not dangerous goods**IATA** Not dangerous goods

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IMDG Not dangerous goods

SECTION 15. REGULATORY INFORMATION
Inventories

US. Toxic Substances Control Act	:	Not On TSCA Inventory	
Australia. Industrial Chemical (Notification and Assessment) Act	:	Phenylmercury chloride	100-56-1
	:	Not in compliance with the inventory	
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	:	1,10-Phenanthroline monohydrochloride monohydrate	3829-86-5
	:	Not in compliance with the inventory	
Japan. Kashin-Hou Law List	:	Phenylmercury chloride	100-56-1
	:	Not in compliance with the inventory	
Korea. Existing Chemicals Inventory (KECI)	:	Phenylmercury chloride	100-56-1
	:	Not in compliance with the inventory	
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	:	Phenylmercury chloride	100-56-1
	:	On the inventory, or in compliance with the inventory	
China. Inventory of Existing Chemical Substances	:	On the inventory, or in compliance with the inventory	
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New	:	On the inventory, or in compliance with the inventory	

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Zealand

National regulatory information

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards : No SARA Hazards

California Prop. 65 :  **WARNING:** This product can expose you to chemicals, listed below, known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Phenylmercury chloride	100-56-1
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Massachusetts RTK : 1,10-Phenanthroline monohydrochloride monohydrate 3829-86-5

New Jersey RTK : 1,10-Phenanthroline monohydrochloride monohydrate 3829-86-5

Pennsylvania RTK : 1,10-Phenanthroline monohydrochloride monohydrate 3829-86-5

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 1	1
Flammability	: 0	0
Physical Hazard	: 0	

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Instability : 0

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group