



## SAFETY DATA SHEET

Poison control center (Quebec)  
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610, rue Adanac, Quebec (Quebec) G1C 7B7

### 1. Identification

**Product Name** (tris)(1,10-phenanthroline)iron(II) sulfate solution, 0.025M

**Cat No. :** PS-0612

**Synonyms** Ferroin sulfate.

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Supplier

Laboratoire MAT Inc.  
610 Adanac street, Quebec  
QC, G1C 7B7, Canada  
Tel: 418-660-8666  
CANADA  
www.labmat.com  
labmat@labmat.com

#### Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-16pm EST), call 1-800-890-8666  
After normal business hours, 24 /24 (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

### 2. Hazard(s) identification

#### Classification

**WHMIS 2015 Classification** Not classified under the Hazardous Products Regulations (SOR/2015-17)

Based on available data, the classification criteria are not met

#### Label Elements

None required

### 3. Composition/Information on Ingredients

| Component   | CAS-No     | Weight %  |
|---|------------|-----------|
| Water   | 7732-18-5  | 97        |
| Iron(2+), tris(1,10-phenanthroline-N1,N10)-,<br>(OC-6-11)-, sulfate (1:1) | 14634-91-4 | 1.7 - 1.9 |
| Ferrous sulfate heptahydrate  | 7782-63-0  | 0.9       |

#### 4. First-aid measures

|   |   |
|---|---|
| <b>Eye Contact</b>  | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.         |
| <b>Skin Contact</b>   | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur. |
| <b>Inhalation</b>   | Remove to fresh air. Get medical attention immediately if symptoms occur.   |
| <b>Ingestion</b>  | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.                   |
| <b>Most important symptoms/effects<br/>Notes to Physician</b> | None reasonably foreseeable.<br>Treat symptomatically   |

#### 5. Fire-fighting measures

|   |                          |
|---|--------------------------|
| <b>Unsuitable Extinguishing Media</b>   | No information available |
| <b>Flash Point</b>                      | Not applicable           |
| <b>Method -</b>                         | No information available |
| <b>Autoignition Temperature</b>         | No information available |
| <b>Explosion Limits</b>                 |                          |
| <b>Upper</b>                            | No data available        |
| <b>Lower</b>                            | No data available        |
| <b>Sensitivity to Mechanical Impact</b> | No information available |
| <b>Sensitivity to Static Discharge</b>  | No information available |

#### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

None known.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 1             | 0                   | 0                  | N/A                     |

#### 6. Accidental release measures

|                                  |  |
|----------------------------------|--|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required.                        |
| <b>Environmental Precautions</b> | Should not be released into the environment. See Section 12 for additional Ecological Information. |

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal.

#### 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. |
|-----------------|---|

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component  | Alberta                  | British Columbia                                      | Ontario TWAEV            | Quebec                     | ACGIH TLV                | OSHA PEL                           | NIOSH IDLH               |
|--|--------------------------|---|--------------------------|----------------------------|--------------------------|------------------------------------|--------------------------|
| Iron(2+), tris(1,10-phenanthroline-N1,N10)-, (OC-6-11)-, sulfate (1:1) | TWA: 1 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> | TWA: 1.0 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> | (Vacated) TWA: 1 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> |
| Ferrous sulfate heptahydrate   | TWA: 1 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup><br>STEL: 2 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> | TWA: 1.0 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> | (Vacated) TWA: 1 mg/m <sup>3</sup> | TWA: 1 mg/m <sup>3</sup> |

#### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

### Engineering Measures

None under normal use conditions.

### Personal protective equipment

#### Eye Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

| Glove material | Breakthrough time                 | Glove thickness | Glove comments         |
|----------------|-----------------------------------|-----------------|------------------------|
| Natural rubber | See manufacturers recommendations | -               | Splash protection only |
| Nitrile rubber |                                   |                 |                        |
| Neoprene       |                                   |                 |                        |
| PVC            |                                   |                 |                        |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### Respiratory Protection

No protective equipment is needed under normal use conditions.

**Recommended Filter type:** Particle filter

### Environmental exposure controls

No information available.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

**Physical State**  
**Appearance**

Liquid  
Dark red

|  |                          |
|--|--------------------------|
| Odor                                   | Odorless                 |
| Odor Threshold                         | No information available |
| pH                                     |                          |
| Melting Point/Range                    | 0 °C / 32 °F             |
| Boiling Point/Range                    | 100 °C / 212 °F          |
| Flash Point                            | Not applicable           |
| Evaporation Rate                       | > 1 (Ether = 1.0)        |
| Flammability (solid,gas)               | Not applicable           |
| Flammability or explosive limits       |                          |
| Upper                                  | No data available        |
| Lower                                  | No data available        |
| Vapor Pressure                         | 14 mmHg                  |
| Vapor Density                          | 0.7                      |
| Specific Gravity                       | 1.0                      |
| Solubility                             | Soluble in water         |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | No information available |
| Decomposition Temperature              | No information available |
| Viscosity                              | No information available |

## 10. Stability and reactivity

|                                  |  |
|----------------------------------|--|
| Reactive Hazard                  | None known, based on information available |
| Stability                        | Stable under normal conditions.            |
| Conditions to Avoid              | Incompatible products.                     |
| Incompatible Materials           | Strong oxidizing agents                    |
| Hazardous Decomposition Products | None under normal use conditions           |
| Hazardous Polymerization         | Hazardous polymerization does not occur.   |
| Hazardous Reactions              | None under normal processing.              |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Oral LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

##### Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

##### Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

#### Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|-----------|-------------|-----------------|
| Water     | -         | -           | -               |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------|------------|------------|------------|------------|------------|------------|
| Water     | 7732-18-5  | Not listed | Not listed | Not listed | Not listed | Not listed |
| Iron(2+), | 14634-91-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

|  |           |            |            |            |            |            |
|--|-----------|------------|------------|------------|------------|------------|
| tris(1,10-phenanthroline-N1,N10)-, (OC-6-11)-, sulfate (1:1) |           |            |            |            |            |            |
| Ferrous sulfate heptahydrate                                 | 7782-63-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

## 15. Regulatory information

### International Inventories

| Component  | CAS-No     | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS    | ELINCS | NLP |
|--|------------|-----|------|------|---|-----------|--------|-----|
| Water  | 7732-18-5  | X   | -    | X    | ACTIVE  | 231-791-2 | -      | -   |
| Iron(2+),<br>tris(1,10-phenanthroline-N1,N10)-,<br>(OC-6-11)-, sulfate (1:1) | 14634-91-4 | X   | -    | X    | ACTIVE  | 238-676-6 | -      | -   |
| Ferrous sulfate heptahydrate   | 7782-63-0  | -   | -    | -    | -   | -         | -      | -   |

| Component  | CAS-No     | IECSC | KECL     | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|--|------------|-------|----------|------|------|------|------|-------|-------|
| Water  | 7732-18-5  | X     | KE-35400 | X    | -    | X    | X    | X     | X     |
| Iron(2+),<br>tris(1,10-phenanthroline-N1,N10)-,<br>(OC-6-11)-, sulfate (1:1) | 14634-91-4 | X     | -        | -    | -    | X    | -    | X     | X     |
| Ferrous sulfate heptahydrate   | 7782-63-0  | X     | -        | X    | X    | X    | X    | X     | X     |

**Legend:**

X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**Canada**

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

**Other International Regulations**

**Authorisation/Restrictions according to EU REACH**

| Component                    | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------------------------|---|---|---|
| Ferrous sulfate heptahydrate | -   | Use restricted. See item 75. (see link for restriction details)               | -   |

<https://echa.europa.eu/substances-restricted-under-reach>

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

| Component   | CAS-No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|------------|----------------|------------------------------|---------------------------|--|
| Water   | 7732-18-5  | Listed         | Not applicable               | Not applicable            | Not applicable                             |
| Iron(2+),<br>tris(1,10-phenanthroline-N1,N<br>10)-, (OC-6-11)-, sulfate (1:1) | 14634-91-4 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |
| Ferrous sulfate heptahydrate  | 7782-63-0  | Listed         | Not applicable               | Not applicable            | Not applicable                             |

| Component   | CAS-No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|------------|---|--|----------------------------|------------------------------------|
| Water   | 7732-18-5  | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |
| Iron(2+),<br>tris(1,10-phenanthroline-N1,N<br>10)-, (OC-6-11)-, sulfate (1:1) | 14634-91-4 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |
| Ferrous sulfate heptahydrate  | 7782-63-0  | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

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## 16. Other information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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