

**MATERIAL SAFETY DATA SHEET****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product: J Arthur Bower's Sulphate of Iron
Supplier: William Sinclair Horticulture
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Product name: Sulphate of Iron

<u>Ingredient</u>	<u>% (w/w)</u>	<u>EINECS No.</u>	<u>CAS No.</u>	<u>Classification & R phrase</u>
Ferrous Sulphate Heptahydrate	95%	231-753-5	7782-63-0	Xn R22
Sulphuric Acid	<1	231-639-5	7664-93-9	Sulphuric acid is not classified and has no R phrase at concentrations below <5%

3. HAZARDS IDENTIFICATION

Classification: Harmful
Main hazards: Harmful if swallowed. May cause irritation to eyes and skin
Other hazards: Drainage from bulk material will be acidic. Excessive levels in water systems may result in oxygen depletion



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4. FIRST AID MEASURES

- Skin contact:* Repeated and/or prolonged contact may cause irritation
Wash thoroughly with soap and water. Remove and wash contaminated clothing
- Eye contact:* Irritates immediately and can cause severe permanent damage
Irrigate with water thoroughly and seek medical advice
- Ingestion:* Can be harmful if swallowed. May irritate gastro-intestinal tract causing nausea, vomiting and abdominal pain.
Rinse out mouth with plenty of water. Seek medical help if more than a small amount has been swallowed.
- Inhalation:* High concentration of dust may irritate trachea and lungs
Move into fresh air and seek medical help if cough or other symptoms develop

Obtain medical advice if symptoms persist

5. FIRE FIGHTING MEASURES

- Flammability:* Not flammable
- Extinguishing Media:* As appropriate for surrounding fire
- Exposure Hazards:* In intense heat, product decomposition will release hazardous fumes of sulphur dioxide
- Protective Equipment:* Wear self-contained breathing apparatus. Wear appropriate protective clothing to prevent contact with skin and eyes

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:* Wear personal protection as outlined in section 8.
- Environmental precautions:* Inform appropriate authority immediately if spillage enters drains or Watercourses. Excessive levels in water system may lead to oxygen depletion.
- Spillages:* Sweep up carefully to minimise dust and transfer to heavy duty plastic bags or drums. Neutralise spilt solution with soda ash
- Disposal:* Depending on degree of spillage, dispose of by use as a lawn treatment or to an authorised waste disposal facility.

See also section 13



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7. HANDLING, STORAGE AND USE

- Handling:* Avoid excessive generation of dust. Use respirator is necessary. Avoid contact with eyes or skin
- Storage :* Keep dry. Store in original closed packaging in a secure, well-ventilated, cool but frost-free area away from oxidising agents and alkalis.
- Use:* Use only as a home garden fertiliser as directed on the pack

8. EXPOSURE CONTROL/PERSONAL PROTECTION

- 8.1 Occupational Exposure Limits
Standard for iron salts (as Fe) in air: 1mg/m³ (8 hours); 2mg/m³ (15 min.)
- 8.2 Precautionary and engineering measures
Avoid high dust concentration and provide ventilation where necessary
- 8.3 Personal Protection
Wear pvc, natural rubber or nitrile gloves (EN 420 & EN 374) when handling the product. Wear overall, goggles (EN 166) and dust masks (EN 140 or EN 149) where dust cannot be controlled by engineering measures.
Wash hands after handling the product and observe good hygiene practices. Do not eat, drink or smoke when handling spillage.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Pale blue/green crystalline powder
- Odour: Recognisable
- pH: Not applicable (solid)
- Flammability: Not flammable
- Bulk density: Normally between 800-900kg/m³
- Solubility in water: At 10°C: 365g/l
Most formulations are hygroscopic

10. STABILITY AND REACTIVITY

- Stability:* Stable under normal conditions
- Materials to avoid:* Incompatible with oxidising agents and alkalis. Iron salts will oxidise in damp conditions.
- Hazardous decomposition products:* Decomposes at 300°C producing toxic fumes of sulphur dioxides



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11. TOXICOLOGICAL INFORMATION

<i>Acute Oral:</i>	Ingestion of large quantities can cause severe liver damage. Children are more susceptible than adult. LD50 oral rat 1480 mg/kg (as Fe)
<i>Eye and skin contact:</i>	May cause eye irritation and skin discoloration
<i>Sensitisation:</i>	Not sensitising based on mouse local lymph node association
<i>Repeated dose toxicity:</i>	No standard test data available. However ferrous sulphate has been used as an iron supplement for human for many years.
<i>Carcinogenicity:</i>	Lack of epidemiological evidence over long use implies that it is not carcinogenic

12. ECOLOGICAL INFORMATION

- 12.1 Mobility
Soluble in water. Ferrous sulphate has a high mobility in soil and sediments based on partition coefficient results.
- 12.2 Persistence/Degradability
Product is inorganic and therefore non-biodegradable, but will degrade as a result of hydrolysis
- 12.3 Bio-accumulation
Low bioaccumulative potential
- 12.4 Ecotoxicity
May have adverse effect on aquatic organisms.
Rainbow trout (96hr) LC50 82.3 mg/l
- 12.5 Other Effects
Ferrous sulphate is used to lower soil pH and to correct iron deficiency in plants

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Environmental protection Act 1990 through a licensed waste contractor. Ferrous sulphate requires disposal as 'special waste'. Take care to avoid the contamination of watercourses and drains.


14. TRANSPORT INFORMATION

- 14.1 UN classification
Classified as non-hazardous



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15. REGULATORY INFORMATION

<i>Hazard symbol:</i>	Xn		
<i>Risk phrases:</i>	R22 Harmful if swallowed		
<i>Safety phrases:</i>	<div>S2 Keep out of reach of children</div> <div>S13 Keep away from food, drink and animal foodstuffs</div> <div>S24 Avoid contact with eyes</div> <div>S26 In case of contact with eyes rinse immediately with water and seek medical advice</div> <div>S35 This material and its container must be disposed of safely</div> <div>S36/37 Wear suitable gloves, clothing and eye/face protection</div> <div>S46 If swallowed, seek medical advice immediately and show label</div>		
<i>OEL:</i>	Yes (see section 8)		

16. OTHER INFORMATION

This safety data sheet provides health and safety information. The product is to be used in a way consistent with best horticultural practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of our knowledge correct at the date of publication. William Sinclair Horticulture disclaims any liability for any loss or damage resulting from reliance on this information.

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