

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING


- 1.1 Product Identifier:** **SULPHATE OF IRON**  
**REACH registration number:** 01-2119513203-57-XXXX
- 1.2 Relevant uses of the substance or mixture and uses advised against:**  
 Retail fertiliser
- 1.3 Details of the supplier of the safety data sheet:**  
 Vitax Limited, Owen Street, Coalville LE67 3DE
- 1.4 Emergency phone number** Tel: 01530 510060 Email: [info@vitax.co.uk](mailto:info@vitax.co.uk)  
**IRL ONLY:** In the event of emergency, call the National Poisons Information Centre, Beaumont Hospital at 01 809 2166 or 01 837 9964.

## 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272/2008 (EU-GHS/CLP)**  
 Acute Tox 4 H302: Harmful if swallowed  
 Skin Irrit. 2 H315: Causes skin irritation  
 Eye Irrit. 2 H319: Causes serious eye irritation

- 2.2 Label Elements**  
**Ferrous Sulphate** (Ferrous Sulphate E.C. 231-753-5)



- Pictogram:**   
**Signal word:** **Warning**  
**Hazard statements:** H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.
- Precautionary Statements** P273 Avoid release to the environment  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301/312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P302/352 IF ON SKIN: Wash with plenty of soap and water.  
 P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P313 Get medical advice/attention.
- 2.3. Other hazards** This product does not contain any PBT or vPvB substances.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Chemical Name	CAS-No./ EINECS-No.	Annex Index or REACH number	Symbol(s) and Phrases	Precautionary Statements:	Concentration [%]
Ferrous Sulphate	7782-63-0/ 231-753-5	026-003-01-4 Index number  01-2119513203-57-XXXX REACH registration number	GHS07 Acute Tox. 4 H302: Harmful if swallowed Skin Irrit. 2 H315: Causes skin irritation Eye Irrit. 2 H319: Causes serious eye irritation	P273 P280 P301/312 P302/352 P305/351/338 P313	100

## 4. FIRST AID MEASURES

- 4.1 Description of first aid measures**
- 4.1.1 Inhalation** Supply fresh air. P330 - Rinse mouth, and nose with water, if symptoms persist, call a physician.
- 4.1.2 Skin & Eye exposure** Drench immediately with water. Remove any contaminated clothing and launder before re-use. Seek medical attention if symptoms persist or develop.  
 Eyes: Immediately rinse with clean water for 15 minutes. Obtain medical attention IMMEDIATELY
- 4.1.3 Ingestion** Call a physician immediately. P331- Do NOT induce vomiting. P330 - Rinse mouth, with water, drink 1 or 2 glasses of water or milk. Never give anything by mouth to an unconscious person.
- 4.2 Most important symptoms and effects, both acute and delayed**  
 Can be acutely toxic but the main symptoms will be irritation to the eye.

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

Seek medical attention if symptoms persist.

## 5. FIRE-FIGHTING MEASURES

**5.1 Extinguishing media** Use fire fighting measures that suit the environment. CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet.

**Unsuitable extinguishing media** Information not specified.

### 5.2 Special Hazards arising from the substance or mixture

Sulphur dioxide SO<sub>2</sub>

**5.3. Advice for firefighters** In the event of fire, wear self-contained breathing apparatus. Fire-fighters must wear fire resistant personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures in Handling and Storage section. Wear protective suit and boots, if dust, aerosols or mist are formed, use half mask with combination filter B/P2.

**6.2 Environmental Precautions** Cover the drains to prevent the product from entering the environment. If the product contaminates rivers and lakes or drains inform respective authorities. Restrict the spread of the spillage by using inert absorbent material (sand, gravel) solutions only.

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

Remove larger spills using a vacuum truck. Dilute residues with water and neutralise with lime or limestone powder. Sweep or shovel up smaller spills and residues. Must be disposed of in accordance with local and national regulations.

**6.4 Reference to other sections** See section 8 for personal protective equipment specification

See section 13 for information on disposal

## 7. HANDLING AND STORAGE

### 7.1 Precaution for safe handling

The work place and work methods shall be organised in such a way that direct contact with the product is prevented or minimised. Wear gloves in a suitable material such as PVC, Neoprene or Natural rubber. Please observe the instructions regarding permeability and breakthrough time, which are provided by the supplier of the gloves. Also consider the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time. Tightly fitting safety goggles must be worn.  
Information about protection against explosions and fires: The product is non-flammable.

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

#### Requirements to be met by storerooms and containers:

Plastic material - Plastic (PE, PP, PVC), Fiberglass-reinforced polyester, Epoxy-coated concrete. Titanium, Acid proof or rubber-coated steel.

Materials to avoid - Non acid-proof metals (such as aluminium, copper and iron), Bases, Unalloyed steel. Galvanised surfaces.

#### Information about storage in one common storage facility:

Not required.

#### Further information about storage conditions:

Keep away from incompatible products. Avoid freezing. Protect from heat and direct sunlight. Store under dry conditions. Storage temperature <30°C.

### 7.3 Specific end use(s)

There are no further specific end uses than those named in section 1.2.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters

#### DNELs

#### Worker

Acute systemic effects, dermal:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 2.8 mg/kg/d
Acute systemic effects, inhalative:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 9.9 mg/m <sup>3</sup>
Systemic long-term effects, dermal:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 2.8 mg/kg/d
Systemic long-term effects, inhalative:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 9.9 mg/m <sup>3</sup>

#### Consumer

Acute systemic effects, oral:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 1.4 mg/kg/d
Acute systemic effects, dermal:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 1.4 mg/kg/d
Acute systemic effects, inhalative:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 2.5 mg/m <sup>3</sup>
Systemic long-term effects, oral:	(FeSO <sub>4</sub> *7H <sub>2</sub> O) 1.4 mg/kg/d

<b>PNECs</b>	Systemic long-term effects, dermal: (FeSO <sub>4</sub> *7H <sub>2</sub> O) 1.4 mg/kg/d Systemic long-term effects, inhalative: (FeSO <sub>4</sub> *7H <sub>2</sub> O) 2.5 mg/m <sup>3</sup> The PNECs given in this section were derived based on the concentration which would cause a 10% increase above typical natural background levels of iron in soil and sediment. Thus the respective PNEC is equal to 110% of the typical natural background level of iron.
<b>Water</b>	Iron is an essential trace element for fish, aquatic invertebrates and plants. A direct toxicity could not be demonstrated in tests. Therefore no PNEC was derived.
<b>Sewage treatment plants (STP)</b>	PNEC STP Fe: 500 mg/l; FeSO <sub>4</sub> *7H <sub>2</sub> O: 2483 mg/l
<b>Sediment</b>	PNEC Sediment (freshwater): Fe: 49.5 g/kg; FeSO <sub>4</sub> *7H <sub>2</sub> O: 246 g/kg dry weight PNEC Sediment (marine water): Fe: 49.5 g/kg; FeSO <sub>4</sub> *7H <sub>2</sub> O: 246 g/kg dry weight Soil PNEC soil: Fe: 55.5 g/kg; FeSO <sub>4</sub> *7H <sub>2</sub> O: 276 g/kg dry weight
<b>Oral (food chain)</b>	Iron is an essential trace element for fish, aquatic invertebrates and plants. A direct toxicity could not be demonstrated in tests. Therefore no PNEC was derived.

## 8.2 Exposure controls

### Personal protective equipment:

#### General protective and hygienic measures:

Listed in section 8 are the general personal protection measures corresponding to the standard of the chemical industry. Specific information and detailed requirements are referred to on the product label. The usual precautionary measures should be adhered to in handling the chemicals.

### Breathing equipment:

Not required.

### Protection of hands:

Requirements according to EN 420. Check protective gloves prior to each use for their proper condition. Preventive skin protection by use of skin-protecting agents is recommended.

### Material of gloves:

Details on the material can be found in the exposure scenarios in the annex of the SDS. Penetration time of glove material: Details can be found in the exposure scenarios in the annex of the SDS.

### Eye protection:

Tightly sealed safety glasses.

### Body protection:

Protective work clothing.

### Limitation and supervision of exposure into the environment:

Information related to exposure control can be found in the respective exposure scenarios in the annex of the SDS.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance;</b>	Green, crystalline
<b>Odour;</b>	Odourless
<b>Odour threshold;</b>	Not determined
<b>pH;</b>	3.6 (400 g/l at 20°C)
<b>Melting point/freezing;</b>	64°C
<b>Initial boiling point and boiling range;</b>	Not applicable
<b>Flash point;</b>	Not applicable
<b>Evaporation rate;</b>	Not applicable
<b>Flammability (solid, gas);</b>	Product is not flammable
<b>Upper /lower flammability or explosive limits;</b>	Not applicable
<b>Vapour Pressure;</b>	Not applicable
<b>Vapour density;</b>	Not applicable
<b>Density;</b>	1.89 g/cm <sup>3</sup>
<b>Solubility (ies);</b>	365 g/l at 10°C
<b>Partition coefficient: n-octanol/water;</b>	Not applicable
<b>Auto ignition temperature;</b>	Information not specified
<b>Decomposition temperature;</b>	Information not specified
<b>Viscosity dynamic;</b>	3 m Pas (solution containing 365 g/l)

### 9.2 Other Information

No further relevant information available.

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

The substance is stable under normal

### 10.2 Chemical Stability

No decomposition if used and stored acc into contact with oxidising agents.

### 10.3 Possibility of hazardous reactions

Information not available

### 10.4 Conditions to avoid

Avoid contact with oxidising agents, see also Section 7 'Handling and Storage'

### 10.5 Incompatible materials

Avoid contact with oxidising agents, see also Section 7 'Handling and Storage'

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**10.6 Hazardous decomposition products** No dangerous decomposition products known

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**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Acute toxicity****LD/LC50 values that are relevant for classification:**

Data from the Key Studies for iron sulphates and iron chlorides:

Oral LD50	132 - 881 mg Fe/kg (rat) (OECD 423)
Dermal	LD50 >400 mg Fe/kg (rat) (OECD 402)
Inhalative	LC50 no relevant data available

Data for ferrous sulphate heptahydrate:

Oral LD50	657 - 4390 mg/kg (rat) (derived)
LD50	>2000 mg/kg (rat) (OECD 401)
Dermal LD50	>1992 mg/kg (rat) derived
Inhalative LC50	no relevant data available

**Primary irritant effect:****on the skin:** OECD 404: Irritant for skin and mucous membranes,**on the eye:** OECD 405: Irritant effect.**Sensitization:** OECD 429 (LLNA-test); No sensitizing effects.**Subacute to chronic toxicity:**

Data of the Key Studies for iron sulphates and iron chlorides:

Oral NOAEL	57 - 65 mg Fe/kg/d (rat, 90 days) (not according to OECD)
Dermal NOAEL	no relevant data available
Inhalative NOAEC	no relevant data available

Data for ferrous sulphate heptahydrate

Oral NOAEL	284 - 324 mg/kg/d (rat, 90 days) (derived)
NOAEL	100 mg/kg/d (rat, 49 days)
Dermal NOAEC	no relevant data available
Inhalative NOELL	no relevant data available

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

There are no indications of CMR effects.

**Specific target organ toxicity (STOT)**

No specific target organ toxicity according to the criteria defined in Regulation (EC) No. 1272/2008.

**Aspiration hazard**

No data, not an aspiration hazard.

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**12. ECOLOGICAL INFORMATION****12.1 Ecotoxicity**

Data is experimentally not accessible.

Under standard test conditions, the ferrous ion, Fe<sup>2+</sup>, is unstable and is oxidised to the ferric, Fe<sup>3+</sup>, ion. Ferric iron salts have a high rate of conversion to insoluble ferric hydroxide, in consequence, Fe<sup>2+</sup> is to a great extent removed from the test system. Furthermore, iron plays an important role in biological processes, with iron homeostasis being under strict control. In conclusion, iron is not considered to be toxic to the aquatic environment under normal conditions.

**12.2 Persistence and degradability** Not relevant for inorganic substances**12.3 Bioaccumulative potential** Iron is a bioessential trace element for organisms and plays an important role in biological processes. The uptake of iron is strictly controlled by homeostatic process. In conclusion, bioaccumulation poses no concern.**12.4 Mobility in soil**

The substance is immobile in soil.

**Additional ecological information: AOX-indication:** <2 mg/kg**12.5 Results of PBT and vPvB**

The product is an inorganic substance and does not fulfil the criteria for PBZ and vPvB according to Annex XIII of REACH.

**PBT:**

Not applicable.

**vPvB:**

Not applicable.

**12.6 Other adverse effects**

No further relevant information available.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods European waste catalogue:**

Waste code number according to origin of waste. This product is classified as hazardous waste and as such is covered by local waste legislation.  
P273 - Avoid release to the environment.

Do not discharge directly into watercourse or any other controlled watercourse.  
P501 - Waste disposal according to EC-regulations 2006/12/EC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste.

**13.2 Uncleaned packaging:**  
**Recommendation:** Disposal according to official regulations

**14. TRANSPORT INFORMATION**

**14.1 UN number:** Product is unclassified for transport  
**14.2 UN proper shipping name:** Product is unclassified for transport  
**14.3 Transport hazard:** Product is unclassified for transport  
**14.4 Packing group:** Product is unclassified for transport  
**14.5 Environmental hazards:** Product is unclassified for transport  
**14.6 Special precautions for user:** Product is unclassified for transport  
**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**  
Applicable for Maritime bulk transport only. Check with carrier.

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**  
This substance is classified and labelled in accordance with regulation 1999/45/EC, regulation (EC) No 1272/2008 and the statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging) regulations.

**National regulations:** Observe in addition the national legislative regulations. UK - Requirements in relation to drinking water treatment chemicals are set out in Regulation 31 of the Water Supply (Water Duality) Regulations 2000, as amended (UK only). There are specification limits on quality in relation to Ferrous Sulphate under the Drinking Water Inspectorate in the UK (UK only).

**Technical instructions (air):** None  
**Water hazard class:** Water hazard class 1: slightly hazardous for water.

**15.2 Chemical Safety Assessment** A Chemical Safety Assessment has been carried out  
**Substances of very high concern (SVHC) according to REACH, Article 57**  
The product is not listed as SVHC, it does not contain any substances of very high concern.

**16. OTHER INFORMATION**

**Reason for revision:** Replaces version dated October 2015. 1.4 Emergency contact amended.

**Legend:**  
Acute Tox. 4: Acute toxicity category 4  
Skin Irrit. 2: Skin irritation category 2  
Eye Irrit. 2: Eye irritation category 2  
RID: Reglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization  
ADR: Accord europeen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Hannonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

**MSDS information:** This Material Safety data sheet is compiled using data submitted for raw materials and practical experience. This product is intended for retail horticulture. This Safety Data Sheet is prepared in compliance with Directive 1999/45/EC, 1272/2008 and Annex I of the REACH regulation 453/2010.

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