



Chemifloc Ltd.

SAFETY DATA SHEET Ferric Sulphate Solution

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

Section 1: Identification of the substance and of the company/undertaking

Identification of the substance or mixture

| | |
|-----------------------------|--|
| Product Name: | Ferric Sulphate Solution |
| Chemical Name: | Iron (III) Sulphate |
| Registration Number: | 01-2119513202-59 |
| Synonyms: | Diiron tris(sulphate), Iron(3+) trisulfate |
| Date of first issue: | 17 January 2011 |
| Version number | 05 |
| Revision date: | 24-03-2016 |
| Supersedes date: | 04-03-2016 |

Relevant identified uses of the substance or mixture and uses advised against:

| | |
|-----------------------------|--|
| Identified uses | Use of iron salts in the treatment of raw water in the supply of either potable water or industrial process water Use of iron salts to treat waste water and in sludge treatment at waste water treatment plants (WWTP's) |
| Uses advised against | None |

Details of the supplier of the safety data sheet

| | |
|----------------------|---|
| Manufacturer: | Chemifloc Ltd Smithstown, Shannon, Co. Clare, Rep. of Ireland. Tel: 00353 61 708699 Fax: 00353 61 708698 e-mail: info@chemifloc.ie |
|----------------------|---|

**Emergency Telephone Number: National Poison Information Centre,
00353 1 8379964**

Section 2: Hazards Identification

Classification of the substance

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classificatory applies.

Classification according to Regulation (EC) no 1272/2008 as amended

Physical hazards

| | | |
|---------------------|------------|-----------------------------------|
| Corrosive to metals | Category 1 | H290 ó May be corrosive to metals |
|---------------------|------------|-----------------------------------|

Health hazards

| | | |
|-----------------------------------|------------|----------------------------------|
| Serious eye damage/eye irritation | Category 1 | H318 ó Causes serious eye damage |
| Skin corrosion/irritation | Category 2 | H315 ó Causes skin irritation |
| Acute toxicity, oral | Category 4 | H302 ó Harmful if swallowed |

Hazard summary

| | |
|------------------------------|---|
| Physical hazards | Not classified for physical hazards. |
| Health hazards | Irritating to eyes. Occupational exposure to the substance may cause adverse health effects |
| Environmental hazards | Not classified for hazards to the environment. |
| Specific hazards | Not available |
| Main symptoms | Not available. |

Label elements**Label according to Regulation (EC) No. 1272/2008 as amended**

Contains: Iron (III) Sulphate

**Signal word**

Danger

Hazard statements

H290 ó May be corrosive to metals.

H318 - Causes serious eye damage.

H315 ó Causes skin irritation.

H302 ó Harmful if swallowed.

Precautionary statements**Prevention**

P280 ó Wear eye/face protection

P264 - Wash hands thoroughly after handling.

Response

P305+351+338 ó IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P337+313 - If eye irritation persists: Get medical advice/attention.

P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Hazardous components which must be listed on the label:

10028-22-5 Iron (III) Sulphate.

Further information The product is classified and labeled in accordance with EC directives or respective national laws.

Other hazards: H290 Corrosive to metals only applies if pH <2

Section 3: Composition/Information on Ingredients**Substance****General information**

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | INDEX No. | Notes |
|---------------------|-------|-------------------------|------------------------|-----------|-------|
| Iron (III) Sulphate | 40-50 | 10028-22-5 233-072-9 | 01-2119513202-59 | - | # |
| Water | 50-60 | 7732-18-5 | | | |

Classification:

CLP: Acute Tox. 4;H302, Skin Irrit. 2;H315, Eye Dam. 1;H318

Section 4: First Aid Measures**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. No hazards which require special first aid measures.

Description of first aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Immediately flush skin with plenty of water. Get medical attention if irritation develops or persists.

Eye contact

Important! Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If possible use lukewarm water. Consult a physician. Do not rub the eyes, mechanical irritation. Continue rinsing eyes during transport to hospital.

Ingestion

If ingestion of a large amount does occur, seek medical attention. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

Corrosive effects, May cause irreversible eye damage.

Indication of any immediate medical attention and special treatment needed

Rinse with plenty of water.

Section 5: Firefighting measures

| | |
|--|---|
| General fire hazards | Non-combustible, substance itself does not burn. |
| Extinguishing media | |
| Suitable extinguishing media | Use fire-extinguishing media appropriate for surrounding materials. |
| Unsuitable extinguishing Media | None known. |
| Special hazards arising from the substance or mixture | The product itself does not burn. No unusual fire or explosion hazards noted. May decompose upon heating to produce corrosive and/or toxic fumes. Sulphur Oxides (SOx). |
| Advice for firefighters | |
| Special protective equipment for firefighters | Wear self-contained breathing apparatus and protective clothing. |
| Special firefighting procedures | No unusual fire or explosion hazards noted. |

Section 6: Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | |
| For non-emergency personnel | Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind. |
| For emergency responders | Not available. |
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not contaminate water. |
| Methods and material for containment and cleaning up | Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas. Large Spills: Dike the spilled material, where this is possible. Soak up with inert absorbent material. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Sweep up or gather material and place in appropriate container for disposal. Following product recovery, flush area with water. After removal flush contaminated area thoroughly with water. Clean up in accordance with all applicable regulations. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. After removal flush contaminated area thoroughly with water. This material and its container must be disposed of as hazardous waste. For waste disposal, see Section 13. |
| Reference to other sections | Not available. |

Section 7: Handling and storage

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|---|--|
| Precautions for safe handling | Avoid contact with eyes. Avoid prolonged exposure. Wash hands thoroughly after handling. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity. |
| Conditions for safe storage, including any incompatibilities | Keep container tightly closed. Keep only in the original container. Store in corrosive resistant/container with a resistant inner liner. Keep out of the reach of children. Store in rubber lined mild steel or plastic tanks. Avoid freezing. Keep away from incompatible materials. |
| Materials for packaging: | Suitable material: plastic (PE, PP, PVC), fiberglass-reinforced polyester, epoxy-coated concrete, titanium, acid proof or rubber-coated steel. |
| Materials to avoid: | Bases, non-acid proof metals (for example aluminium, copper and iron), Avoid contact with unalloyed steel or galvanized surfaces. |
| Other data: | Stable under recommended storage conditions. |
| Specific end use(s) | The specified uses for this material are shown in section 1 of this document. |

Section 8: Exposure controls / personal protection

Control parameters

Occupational exposure limits

Ireland

United Kingdom

| Components | Type | Value | Form |
|-------------------------------------|------|---------------------|------|
| Iron (III) Sulphate (10028-22-5) | STEL | 2 mg/m ³ | |
| | TWA | 1 mg/m ³ | |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Not available.

DNEL

Components

| Components | Type | Route | Value | Form |
|----------------------------------|----------|------------|----------------------|-------|
| Iron (III) Sulphate (10028-22-5) | Consumer | Oral | 0.29 mg/kg bw/day | as Fe |
| | | Dermal | 0.29 mg/kg bw/day | as Fe |
| | | Inhalation | 0.5 mg/kg bw/day | as Fe |
| | Industry | Dermal | 0.57 mg/kg bw/day | as Fe |
| | | Inhalation | 2.01 mg/kg bw/day | as Fe |

PNEC

Not available.

Exposure Controls

Appropriate engineering controls

Ventilation should be sufficient to effectively remove and prevent build-up of any dusts or fumes that may be generated during handling or thermal processing. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment.

General information

Use personal protective equipment as required. Eye wash fountain is recommended. Keep working clothes separately.

Eye/face protection

Wear eye/face protection. (EN166)

Skin protection

- Hand protection

PVC or other plastic material gloves. (EN374)

- Other

Normal work clothing (long sleeved shirts and long pants) is recommended.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards

Not available

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

General information (Appearance, odour)

| | |
|----------------|------------------|
| Physical State | Aqueous solution |
| Colour | Red Brown |
| Odour | Not significant |

Important health safety and environmental information

| | |
|---------------------------|--|
| pH | 0.5 ó 2.5 |
| Melting point/range | < -15 °C (< 5 °F) |
| Boiling point / range | not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted. |
| Flash point | not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted., inorganic compound |
| Flammability (solid, gas) | does not sustain combustion. |
| Explosive properties | |
| - Lower explosive limit | not applicable |

| | |
|---|--|
| - Upper explosive limit | |
| Vapour Pressure | not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted. |
| Density | 1.49 ó 1.59 g/cm ³ |
| Solubility(ies) | |
| - Water solubility | miscible |
| Partition coefficient (n-octanol/water) | not applicable, inorganic compound. |
| Thermal Decomposition | 650°C |
| Other information | Freezing Point: Lower than ó 15 °C. |

Section 10: Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | Avoid contact with chlorites / hypochlorites / sulphites Incompatible with strong bases and oxidizing agents. |
| Chemical stability | Stable under recommended storage conditions. |
| Possibility of hazardous reactions | Corrodes metals under influence of moisture. |
| Conditions to avoid | Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals. |
| Incompatible materials | Bases, non-acid proof metals (for example aluminium, copper and iron) Avoid contact with unalloyed steel or galvanized surfaces. |
| Hazardous decomposition products | sulphur oxides (SOx) |
| Thermal decomposition | 650°C. |

Section 11: Toxicological information

Information on toxicological effects

Acute toxicity

Product

Ferric Sulphate Solution (Mixture)

Test results

Acute Dermal LD50 Rat: 5000 mg/kg estimated
Acute Oral LD50 Rat: 1250 mg/kg estimated

Components

Iron (III) Sulphate (10028-22-5)

Acute Dermal LD50 Rat: >= 2000 mg/kg
Acute Oral LD50 Rat: 500 - 2000 mg/kg

Skin corrosion/irritation
Serious eye damage/eye irritation

Causes severe skin burns and eye damage.
Causes serious eye damage.

Skin Sensitisation
Respiratory Sensitisation
Germ Cell mutagenicity
Carcinogenicity
Reproductive toxicity
STOT - single exposure
STOT- repeated exposure
Aspiration hazard

Not sensitizing
Not available
Not classified
Not classified
Not classified
The substance is not classified
The substance is not classified
Not classified.

Section 12: Ecological information

Toxicity

Components

Test results

Ferric Sulphate Solution (Mixture)

LC50 Fish: 14286 mg/l 96.00 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Biological degradability:

The methods for determining the biological degradability are not applicable to inorganic substances.

Chemical degradation:

Remarks: Reaction with water forms iron hydroxide precipitates.

Bioaccumulative potential

Partition coefficient: n-octanol/water: not applicable, inorganic compound

Mobility in soil

Mobility

water solubility 6 soluble

Results of PBT and vPvB assessment

Not available.

Other adverse effects

Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. The product can hydrolyse and form a precipitate of iron hydroxide when diluted beyond a particular level. The solubility of the product is dependent on its pH value

Section 13: Disposal considerations

Waste treatment methods

Product

Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.
Thoroughly cleaned packaging material may be recycled.

Contaminated packaging

Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

Section 14: Transport information

ADR/RID:

UN Number: 1760
Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Ferric Sulphate)
Transport hazard class(es) 8
Subsidiary class(es) 8
Packing group III
Environmental hazards No
Labels required 8
Special precautions for user Not available.

IATA

UN Number: 1760
UN Proper Shipping Name: CORROSIVE LIQUID, N.O.S. (Ferric Sulphate)
Transport hazard class(es) 8
Subsidiary class(es) 8
Packing group III
Environmental hazards No
Special precautions for user Not available.

IMDG

| | |
|------------------------------|--|
| UN number | 1760 |
| UN proper shipping name | CORROSIVE LIQUID, N.O.S. (Ferric Sulphate) |
| Transport hazard class(es) | 8 |
| Subsidiary class(es) | 8 |
| Packing group | III |
| Marine pollutant | No |
| EmS No. | F-A, S-B |
| Special precautions for user | Not available. |



ADR



IATA



IMDG

Section 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registry (EPER)

Not listed

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

National regulations Not available.

Other regulations This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. No restrictions identified other than those already covered in regulations.

Chemical Safety Assessment

Chemical Safety Assessments have been carried out for the components of the mixture.

Inventory status

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of New and Existing Chemicals (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |

| | | |
|-----------------------------|--|-----|
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances(PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

Section 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|----------------------------|
| H290 | May be corrosive to metals |
| H318 | Causes serious eye damage. |
| H315 | Causes skin irritation |
| H302 | Harmful if swallowed. |

Training advice Not available

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.

Issue date: 24-03-2016
Revision date: 24-03-2016
Print date: 24-03-2016