



Chemifloc Ltd.

SAFETY DATA SHEET Ferrous 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: Ferrous Sulphate Solution
Chemical Name: Iron (II) Sulphate
Registration Number: 01-2119513203-57
Synonyms: Bulkfloc, Phosfloc.
Date of first issue: 17 January 2011
Version number 04
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

Health hazards

Serious sensitisation Category 1 H317 ó May cause an allergic skin reaction.

Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards Not classified for health hazards. However, occupational exposure to the mixture or substance(s) 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 (II) Sulphate



Signal word	Warning
Hazard statements	H317 - May cause an allergic skin reaction.
Precautionary statements	
Prevention	P272 - Contaminated work clothing should not be allowed out of the workplace.
Response	
	P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
	P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
	P363 - Wash contaminated clothing before reuse.

Hazardous components which must be listed on the label:

7720-78-7 Iron (II) 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 (II) Sulphate	5-10	7720-78-7 231-753-5	01-2119513203-57	-	#
Water	90-95	7732-18-5			

Classification: CLP: Acute Tox. 4;H302, Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319

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

Rinse with water. Get medical attention if irritation develops and persists.

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

Not available.

Indication of any immediate medical attention and special treatment needed

Not available.

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	Local authorities should be advised if significant spillages cannot be contained. Avoid contact with spilled material. Do not touch or walk through spilled material. 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

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

Iron (II) Sulphate
(7720-78-7)

Type

STEL
TWA

Value

2 mg/m³
1 mg/m³

Form

as Fe
as Fe

Biological limit values

Recommended monitoring procedures

DNEL

Components

Iron (II) Sulphate (7720-78-7)

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

Not available.

Type

Consumer

Route

Oral
Dermal
Inhalation
Dermal
Inhalation

Value

0.29 mg/kg
bw/day
0.29 mg/kg
bw/day
0.5 mg/kg
bw/day
0.57 mg/kg
bw/day
2.01 mg/kg
bw/day

Form

as Fe
as Fe
as Fe
as Fe
as Fe

PNEC

Exposure Controls

Appropriate engineering controls

Not available.

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 applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment.

General information

Eye/face protection

Skin protection

- Hand protection

- Other

Respiratory protection

Thermal hazards

Use personal protective equipment as required. Eye wash fountain is recommended.

Keep working clothes separately.

Wear eye/face protection. (EN166)

PVC or other plastic material gloves. (EN374)

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

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

Not available

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

General information (Appearance, odour)

Physical State

Aqueous solution

Colour

Green

Odour

Not significant

Important health safety and environmental information

pH

2 - 3

Boiling point / range

100 ó 105°C

Crystallisation Point

-5°C.

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	1.15 ó 1.18 g/cm ³
Solubility(ies)	
- Water solubility	miscible
Partition coefficient (n-octanol/water)	not applicable, inorganic compound.
Thermal Decomposition	600°C
Other information	Diluted solutions hydrolyse to form a precipitate of Fe(OH) ₃

Section 10: Stability and reactivity

Reactivity	Material is stable under normal conditions. Contact with metals may evolve flammable hydrogen gas.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Unalloyed steel, galvanised or aluminium surfaces Thermal decomposition can take place above 600°C.
Incompatible materials	Mild steel or brass fittings should be avoided Avoid contact with chlorites / hypochlorites / sulphites. Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products	sulphur oxides (SO _x)
Thermal decomposition	600°C.

Section 11: Toxicological information

General Information.

Information on likely routes of exposure

Ingestion	May be harmful if swallowed.
Inhalation	Not applicable.
Skin Contact	May be harmful in contact with skin. May cause an allergic skin reaction.
Symptoms	Not available.

Information on toxicological effects

Acute toxicity

Product

Test results

Ferrous Sulphate Solution (Mixture)	Acute Dermal LD50 Rat: 2583 mg/kg estimated Acute Oral LD50 Rat: 5317 mg/kg estimated
-------------------------------------	--

Components

Iron (II) Sulphate (7720-78-7)	Acute Dermal LD50 Mouse: 60.3 mg/kg Acute Dermal LD50 Rat: 155 mg/kg Acute Oral LD50 Rat: >= 2000 mg/kg
--------------------------------	---

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes serious eye damage.
Skin Sensitisation	Not sensitizing
Respiratory Sensitisation	Not available
Germ Cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT - single exposure	The substance is not classified
STOT- repeated exposure	The substance is not classified
Aspiration hazard	Not classified.

Section 12: Ecological information

Toxicity

Product	Test results
Ferrous Sulphate Solution (Mixture)	EC50 Daphnia: 730 mg/l 48.00 hours estimated LC50 Fish: 190 mg/l 96.00 hours estimated
Components	Test Results
Iron (II) Sulphate (7720-78-7)	LC50 Brook trout (<i>Salvelinus fontinalis</i>): 0.41 mg/l 96.00 hours EC50 Water flea (<i>Daphnia magna</i>): 6.15 - 9.26 mg/l 48.00hours

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

Persistence and degradability

The product solely consists of inorganic compounds which are not biodegradable. The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Not expected to be a hazard to aquatic organisms based on the fact that this material hydrolyses rapidly to form a precipitate, which sediments.

Mobility in soil

Mobility	water solubility ó 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	
Residual waste	Neutralise with lime or soda ash Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14: Transport information

ADR/RID:

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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.

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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**