



Chemifloc Ltd.

SAFETY DATA SHEET Ferriox Solution

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

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

Identification of the mixture

Product Name: Ferriox
Chemical Name:
Registration Number:
Synonyms:
Date of first issue: 17 January 2011
Version number 05
Revision date: 04-03-2016
Supersedes date: 02 March 2015

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

Identified uses

Use of iron and nitrate 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 mixture

The mixture 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
Category 2 H315 - Causes skin irritation.

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) Nitrate, Sodium Nitrate.



Signal word Danger

Hazard statements H290 ó May be corrosive to metals.
H318 - Causes serious eye damage.
H315 - Causes skin irritation.

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.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P310 - Immediately call a POISON CENTER or doctor/physician.

Storage P406 - Store in corrosive resistant container with a resistant inner liner.

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

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

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Iron (III) Nitrate	20-30	10421-48-4 233-899.5	01-2119978293-27-0003	-	#
Classification:	CLP: H314, Skin Damage 1B, Eye Dam. 1				
Sodium Nitrate	15-25	7631-99-4 231-554-3	01-2119488221-41		
Classification:	CLP: H272: Ox. Sol. 2, H319: Eye Irrit. 2				

CLP: Regulation No. 1272/2008

#: This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

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

In the case of accident or if you feel unwell, seek medical advice immediately (show the lab l where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Description of first aid measures**Inhalation**

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

Skin contact

Remove contaminated clothing. Wash off with soap and plenty of water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation occurs: Get medical advice/attention.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or Poison Control Centre immediately.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms and effects, both acute and

Not available.

delayed

Indication of any immediate medical attention and special treatment needed

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

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. In the event of fire Nitrogen oxides may be formed.

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.

Reference to other sections

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.
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

ComponentsIron (III) Nitrate
(10421-48-4)**Type**STEL
TWA**Value**2 mg/m³
1 mg/m³**Form****Biological limit values****Recommended monitoring procedures****DNEL****Components**

Iron (III) Nitrate (10421-48-4)

No biological exposure limits noted for the ingredient(s).
Not available.**Type**

Consumer

RouteOral
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
as Sodium Nitrate
as Sodium Nitrate

Sodium Nitrate (7631-99-4)

Industry

Dermal
Inhalation20.8 mg/kg
bw/day
36.7 mg/m³**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 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

Yellow Orange

Odour

Slightly pungent

Important health safety and environmental information**pH**

0.5 ó 2.5

Melting point/range

< -15 °C (< 5 °F)

Boiling point / range

105°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	1.4 g/cm ³
Solubility(ies)	
- Water solubility	miscible
Partition coefficient (n-octanol/water)	not applicable, inorganic compound.
Thermal Decomposition	Not available
Other information	Freezing Point: Lower than 6 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	Not available.
Conditions to avoid	Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals.
Incompatible materials	Incompatible with oxidising agents, alkalis, reducing agents, finely divided combustible materials, combustible materials, sawdust, metals, powdered metals, and chemicals readily decomposed by acids, i.e cyanides, sulfides, carbonates. Do NOT contaminate water, foodstuffs, feed or seed.
Hazardous decomposition products	Decomposes on heating and may produce acrid smoke, toxic and corrosive fumes including those of carbon monoxide, nitrogen oxides, nitric acid and metal oxides. Reacts with metals producing flammable/explosive hydrogen gas.
Thermal decomposition	Not available.

Section 11: Toxicological information

Information on toxicological effects

Acute toxicity

Components

Test results

Iron (III) Nitrate (10421-48-4)

Acute Dermal LD50 Rat: >= 2000 mg/kg

Acute Oral LD50 Rat: 500 - 2000 mg/kg

Sodium nitrate (7631-99-4)

Acute Oral LD50 Rat: 1267 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

Components	Test results
Sodium nitrate (7631-99-4)	LC50 Planehead Filefish (<i>Monacanthus hispidus</i>): 573 mg/196.00 hours

* 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

RID/ADR:

UN Number:	3264
UN Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate)
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:	3264
UN Proper Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate)
Transport hazard class(es)	8
Subsidiary class(es)	8
Packing group	III
Environmental hazards	No

Labels required	8
Special precautions for user	Not available.
IMDG	
UN number	UN3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate)
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



IMDG



IATA

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.

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.

Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work.

National regulations

Not available.

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out.

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
H314	Causes severe skin burns and eye damage.

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.

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