



# Chemifloc Ltd.

## SAFETY DATA SHEET Septiox 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:** Septiox  
**Chemical Name:**  
**Registration Number:**  
**Synonyms:**  
**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 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](mailto: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.

Skin corrosion/irritation Category 1 H317 ó May cause an allergic skin reaction.

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) Nitrate, Sodium Nitrate.



#### Signal word

Danger

#### Hazard statements

H290 ó May be corrosive to metals.  
H318 - Causes serious eye damage.  
H315 - Causes skin irritation.  
H317 ó May cause an allergic skin reaction.  
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.  
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     | 8-12  | 10421-48-4<br>233-899-5 | 01-2119978293-27-0003  | -         | #     |
| <b>Classification:</b> | <b>CLP:</b> Acute Tox. 4;H302, Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Dam. 1;H318 |                         |                        |           |       |
| Sodium Nitrate         | 30-35   | 7631-99-4<br>231-554-3  | 01-2119488221-41-xxxx  |           |       |
| <b>Classification:</b> | <b>CLP:</b> H272: Ox. Sol. 2, Acute Tox. 4;H302, Eye Irrit. 2;H319                    |                         |                        |           |       |
| Water                  | 53-62   | 7732-18-5               |                        |           |       |

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.

|   |  |
|---|--|
| <b>Ingestion</b>  | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.                                |
| <b>Most important symptoms and effects, both acute and delayed</b>                | Not available.   |
| <b>Indication of any immediate medical attention and special treatment needed</b> | In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. |

## Section 5: Firefighting measures

|  |   |
|--|---|
| <b>General fire hazards</b>                                  | Non-combustible, substance itself does not burn.  |
| <b>Extinguishing media</b>                                   |   |
| <b>Suitable extinguishing media</b>                          | Use fire-extinguishing media appropriate for surrounding materials.   |
| <b>Unsuitable extinguishing Media</b>                        | None known.   |
| <b>Special hazards arising from the substance or mixture</b> | 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. |
| <b>Advice for firefighters</b>                               |   |
| <b>Special protective equipment for firefighters</b>         | Wear self-contained breathing apparatus and protective clothing.  |
| <b>Special firefighting procedures</b>                       | No unusual fire or explosion hazards noted.   |

## Section 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

|                                    |   |
|------------------------------------|---|
| <b>For non-emergency personnel</b> | Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind. |
| <b>For emergency responders</b>    | Not available.  |

### Environmental precautions

|   |  |
|---|--|
| <b>Methods and material for containment and cleaning up</b> | Prevent further leakage or spillage if safe to do so. Do not contaminate water. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas.<br>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.<br>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.<br>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. |
| <b>Reference to other sections</b>                          | Not available.   |

## Section 7: Handling and storage

|   |  |
|---|--|
| <b>Precautions for safe handling</b>                                | 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.   |
| <b>Conditions for safe storage, including any incompatibilities</b> | 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.<br>Keep away from incompatible materials. |

|                                 |  |
|---------------------------------|--|
| <b>Materials for packaging:</b> | Suitable material: plastic (PE, PP, PVC), fiberglass-reinforced polyester, epoxy-coated concrete, titanium, acid proof or rubber-coated steel. |
| <b>Materials to avoid:</b>      | Bases, non-acid proof metals (for example aluminium, copper and iron), Avoid contact with unalloyed steel or galvanized surfaces.              |
| <b>Other data:</b>              | Stable under recommended storage conditions.   |
| <b>Specific end use(s)</b>      | 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) Nitrate<br>(10421-48-4) | STEL | 2 mg/m <sup>3</sup> |      |
|                                    | TWA  | 1 mg/m <sup>3</sup> |      |

#### 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) Nitrate (10421-48-4) | Consumer | Oral       | 0.29 mg/kg<br>bw/day   | as Fe             |
|                                 |          | Dermal     | 0.29 mg/kg<br>bw/day   | as Fe             |
|                                 |          | Inhalation | 0.5 mg/kg<br>bw/day    | as Fe             |
|                                 | Industry | Dermal     | 0.57 mg/kg<br>bw/day   | as Fe             |
|                                 |          | Inhalation | 2.01 mg/kg<br>bw/day   | as Fe             |
|                                 |          | Dermal     | 20.8 mg/kg<br>bw/day   | as Sodium Nitrate |
| Sodium Nitrate (7631-99-4)      | Industry | Inhalation | 36.7 mg/m <sup>3</sup> | as Sodium Nitrate |

#### 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** Aquous solution

**Colour** Yellow Orange

**Odour** Slightly pungent

#### Important health safety and environmental information

|  |  |
|--|--|
| <b>pH</b>                                      | 0.5 ó 2.5  |
| <b>Melting point/range</b>                     | < -15 °C (< 5 °F)  |
| <b>Boiling point / range</b>                   | 105°C  |
| <b>Flash point</b>                             | not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted., inorganic compound |
| <b>Flammability (solid, gas)</b>               | does not sustain combustion.   |
| <b>Explosive properties</b>                    |  |
| - Lower explosive limit                        | not applicable   |
| - Upper explosive limit                        |  |
| <b>Vapour Pressure</b>                         | not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted.                     |
| <b>Density</b>                                 | 1.4 g/cm <sup>3</sup>  |
| <b>Solubility(ies)</b>                         |  |
| - Water solubility                             | miscible   |
| <b>Partition coefficient (n-octanol/water)</b> | not applicable, inorganic compound.  |
| <b>Thermal Decomposition</b>                   | Not available  |
| <b>Other information</b>                       | Freezing Point: Lower than ó 15 °C.  |

## Section 10: Stability and reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                         | Avoid contact with chlorites / hypochlorites / sulphites Incompatible with strong bases and oxidizing agents.   |
| <b>Chemical stability</b>                 | Stable under recommended storage conditions.  |
| <b>Possibility of hazardous reactions</b> | Not available.  |
| <b>Conditions to avoid</b>                | Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals.   |
| <b>Incompatible materials</b>             | 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. |
| <b>Hazardous decomposition products</b>   | 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.  |
| <b>Thermal decomposition</b>              | Not available.  |

## Section 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

#### Components

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

#### Test results

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

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

## Section 12: Ecological information

### Toxicity

#### Components

Sodium nitrate (7631-99-4)

#### Test results

LC50 Planehead Filefish (*Monacanthus hispidus*): 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

II

#### Environmental hazards

No

#### Labels required

8

#### Special precautions for user

Not available.

### IATA

#### UN Number:

3264

|                                     |  |
|-------------------------------------|--|
| <b>UN Proper Shipping Name:</b>     | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate) |
| <b>Transport hazard class(es)</b>   | 8  |
| <b>Subsidiary class(es)</b>         | 8  |
| <b>Packing group</b>                | II   |
| <b>Environmental hazards</b>        | No   |
| <b>Labels required</b>              | 8  |
| <b>Special precautions for user</b> | Not available.   |

#### IMDG

|                                     |  |
|-------------------------------------|--|
| <b>UN number</b>                    | UN3264   |
| <b>UN proper shipping name</b>      | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate) |
| <b>Transport hazard class(es)</b>   | 8  |
| <b>Subsidiary class(es)</b>         | 8  |
| <b>Packing group</b>                | II   |
| <b>Marine pollutant</b>             | No   |
| <b>EmS No.</b>                      | F-A, S-B   |
| <b>Special precautions for user</b> | 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               |
| H317 | May cause an allergic skin reaction. |
| 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.

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