

Complying with Regulation (EC) No 1272/2008 (CLP) as amended by Commission Regulation (EU) 2015/830.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: SB Micro 7 Plus
CAS Number: Not applicable
EC Number: Not applicable
REACH No: Not applicable

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

Relevant identified uses: Fertilizer for agricultural & amenity use.
 Uses advised against: Uses other than those described above.

1.3 Details of the supplier of the safety data sheet

Company Name: Soil Biology Ltd
Company Address: Unit 30 Branbridges Industrial Estate
 East Peckham
 TN12 5HF
 United Kingdom

Company Tel: +44 (0) 1892 883759

1.4 Emergency telephone number


Emergency telephone number (including hours of operation): +44 (0) 1892 883759 (08:30 – 17:00).

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP/GHS)

| Product name | GHS Classification |
|------------------------|---|
| SB Micro 7 Plus | Acute Toxicity, Oral, Category 4 Skin Corrosion/Irritation, Category 2 Serious Eye Damage/Irritation, Category 1 Carcinogenicity, Category 1B Reproductive Toxicity, Category 1B Hazardous to the aquatic environment – short-term (acute) aquatic hazard, Category 1 Hazardous to the aquatic environment – long-term (chronic) aquatic hazard, Category 1 |

| | | |
|---|--------------------------|---------------------|
|  | SAFETY DATA SHEET | |
| SB Micro 7 Plus | 01 Mar 2022 | Page 2 of 16 |

2.2 Label elements

Labelling in accordance with Regulation 1272/2008 (CLP)

Hazard pictograms:



Signal word: DANGER

Hazard statements:

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H318 - Causes serious eye damage
- H350i - May cause cancer by inhalation
- H360FD - May damage fertility. May damage the unborn child
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements:

- P201 - Obtain special instructions before use.
- P273 - Avoid release to the environment
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER/ doctor
- P391 - Collect spillage.

Supplemental Hazard Statements. EUH208 - Contains cobalt and nickel sulphate. May cause an allergic reaction

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances :
Not applicable.

3.2 Mixture :

| Product/ Ingredient name | Identifiers | % | Classification 1272/2008/EC | M Factor | Specific conc'n limits | Acute toxicity estimate |
|-----------------------------|-------------|---|--------------------------------|-------------|------------------------------|-------------------------------|
|-----------------------------|-------------|---|--------------------------------|-------------|------------------------------|-------------------------------|

| | | | | | (SCL) | (ATE) |
|--|---|----------|---|--------|--------------------------|--------------------------|
| 2-Hydroxypropane-1,2,3-tricarboxylic acid | CAS No 5949-29-1 EC No 201-069-1 REACH No 01- 2119457026- 42-XXXX | 50 - 60% | Eye Irrit. 2, H319 | 1 | No SCL in Annex VI | No ATE in Annex VI |
| Ferrous Sulphate Monohydrate | CAS No 7720-78-7 EC No 231-753-5 REACH No 01- 2119513203- 57-XXXX | 20 - 30% | Acute Tox. Oral 4, H302 Skin Irrit 2, H315 Eye Irrit 2, H319 | 1 | No SCL in Annex VI | No ATE in Annex VI |
| Copper Sulphate Pentahydrate | CAS No 7758-99-8 EC No 231-847-6 REACH No 01- 2119520566- 40-XXXX | 5 - 10% | Acute Tox. Oral 4, H302 Eye Irrit 2, H319 Skin Irrit 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 | M = 10 | No SCL in Annex VI | No ATE in Annex VI |
| Manganese Sulphate Monohydrate | CAS No 10034-96-5 EC No 232-089-9 REACH No 01- 2119456624- 35-XXXX | 5 - 10% | Eye Dam 1, H318 STOT RE 2, H373 Aquatic Chronic 2, H411 | 1 | No SCL in Annex VI | No ATE in Annex VI |
| Disodium Octaborate Tetrahydrate | CAS No 12280-03-4 EC No 234-541-0 REACH No 01- 2119490860- 33-XXXX | < 5% | Repr. Cat. 1B, H360FD | 1 | No SCL in Annex VI | No ATE in Annex VI |
| Zinc Sulphate Monohydrate | CAS No 7733-02-0 EC No 231-793-3 | < 5% | Acute Tox. Oral 4, H302 Eye Dam 1, H318 Aquatic Acute 1, H400 | 1 | No SCL in Annex VI | No ATE in Annex VI |

| | | | | | | |
|--|---|------|---|---|--------------------------|--------------------------|
| | REACH No 01- 2119474684- 27-XXXX | | Aquatic Chronic 1, H410 | | | |
| Cobalt | CAS No 7440-48-4 EC No 231-158-0 REACH No 01- 2119517392- 44-XXXX | < 1% | Skin Sens. 1, H317 Resp. Sens. 1, H334 Aquatic Chronic 4 H413 | 1 | No SCL in Annex VI | No ATE in Annex VI |
| Nickel Sulphate Hexahydrate | CAS No 10101-97-0 EC No 232-104-9 REACH No 01- 2119439361- 44-XXXX | < 1% | Acute Tox, Oral, 4, H302 Acute Tox, Inhalation, 4, H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Resp. Sens. 1, H334 Muta. 2 H341 Carc 1B H350i Rep.Tox 1B H360D STOT RE, Inhalation,1 H372 Aquatic Chronic 1, H410 | 1 | No SCL in Annex VI | No ATE in Annex VI |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.
See section 16 for the full text of the EUH, H and P phrases declared above.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact: If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If the irritation persists immediately call the medical service.

Skin contact: Wash the contaminated area with plenty of water, replace the contaminated clothing and shoes with clean ones, if necessary (contaminated clothes must be washed before reuse); if the irritation persists seek medical assistance.

Inhalation: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Seek medical advice.

Ingestion: Do NOT induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause cancer by inhalation. May damage fertility. May damage the unborn child.

The following symptoms may occur:

In case of inhalation May cause irritation to respiratory tract. May cause cancer.

In case of skin contact May cause redness or irritation

In case of eye contact Causes serious eye damage

In case of ingestion Ingestion of large amounts may cause gastrointestinal disturbances

4.3 Indication of any immediate medical attention and special treatment needed

If any symptoms are observed, contact a physician and give them this SDS sheet. Provide general supportive measures and treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: : Use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.

Unsuitable extinguishing media: None, but attention should be paid to compatibility with surrounding chemicals.

5.2 Special hazards arising from the substance or mixture

Irritating and toxic gases or fumes may be released during a fire.

Hazardous combustion products:

Carbon oxides, sulphur oxides and metallic oxides.

5.3 Advice for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)). In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Keep out of drains, surface waters and soil against pollution.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering.

For emergency responders

Keep unauthorized people away and upwind. Wear appropriate personal protective equipment (refer to Section 8 Exposure controls/ personal protection) and avoid contact with eyes and skin. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways or air).

6.3 Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if safe to do so. Sweep up and collect into containers for disposal. Keep in suitable, closed containers for disposal.

Small Spills: Sweep up and collect into containers for disposal. Keep in suitable, closed containers for disposal. For waste disposal, see section 13 of the SDS.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid generation of dust. Avoid contact with skin and eyes. Avoid prolonged exposure. Provide appropriate exhaust ventilation at places where dust is formed. Wear appropriate personal protective equipment. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store indoors and ideally at 20°C or under to prevent caking due to the product's low melting point.

Do not store together with: reducing agents (see Section 10 of the SDS).

7.3 Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

| Ingredient name | CAS Number | Occupational exposure limits | Source |
|---|-------------------|---|--|
| 2-Hydroxypropane-1,2,3-tricarboxylic acid | 5949-29-1 | Short-term value: No data available Long-term value: No data available | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Ferrous Sulphate Monohydrate | 7720-78-7 | Short-term value: No data available Long-term value: No data available | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Copper Sulphate Pentahydrate | 7758-99-8 | Short-term value: No data available Long-term value: No data available | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |

| | | | |
|----------------------------------|------------|---|--|
| Manganese Sulphate Monohydrate | 10034-96-5 | Short-term value: No data available Long-term value: 0.5 mg/m ³ | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Disodium Octaborate Tetrahydrate | 12280-03-4 | Short-term value: No data available Long-term value: No data available | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Zinc Sulphate Monohydrate | 7733-02-0 | Short-term value: No data available Long-term value: No data available | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Cobalt | 7440-48-4 | Short-term value: No data available Long-term value: 0.1 mg/m ³ | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |
| Nickel Sulphate Hexahydrate | 10101-97-0 | Short-term value: No data available Long-term value: 0.1 mg/m ³ | UK. EH40/2005 (4 th Edition 2020) Workplace exposure limits |

Monitoring procedures: Use methods described in European Standards.

Derived No Effect Level (DNEL):

2-Hydroxypropane-1,2,3-tricarboxylic acid

None established

Ferrous Sulphate Monohydrate

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|-----------------------------|-------------------|
| Workers | Dermal | Long-term systemic effects | 2.8 mg/kg bw/day |
| General population | Dermal | Long-term systemic effects | 1.4 mg/kg bw/day |
| General population | Oral | Long-term systemic effects | 0.28 mg/kg bw/day |
| General population | Oral | Short-term systemic effects | 20 mg/kg bw/day |

Copper Sulphate Pentahydrate

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|-----------------------------|---------------------|
| Workers | Inhalation | Long-term systemic effects | 1 mg/m ³ |
| Workers | Inhalation | Long-term local effects | 1 mg/m ³ |
| Workers | Dermal | Long-term systemic effects | 137 mg/kg bw/day |
| General population | Oral | Long-term systemic effects | 0.041 mg/kg bw/day |
| General population | Oral | Short-term systemic effects | 0.082 mg/kg bw/day |

Manganese Sulphate Monohydrate

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|----------------------------|-------------------------|
| Workers | Inhalation | Long-term systemic effects | 0.2 mg/m ³ |
| Workers | Inhalation | Long-term local effects | 0.2 mg/m ³ |
| Workers | Dermal | Long-term systemic effects | 0.004 mg/kg bw/day |
| General population | Inhalation | Long-term systemic effects | 0.043 mg/m ³ |
| General population | Dermal | Long-term systemic effects | 0.002 mg/kg bw/day |

Disodium Octaborate Tetrahydrate

| Application Area | Exposure routes | Health Effect | Value |
|------------------|-----------------|----------------------------|-----------------------|
| Workers | Inhalation | Long-term systemic effects | 6.9 mg/m ³ |
| Workers | Dermal | Long-term systemic effects | 326 mg/kg bw/day |

| | | | |
|--------------------|------------|-----------------------------|-----------------------|
| General population | Inhalation | Long-term systemic effects | 3.5 mg/m ³ |
| General population | Dermal | Long-term systemic effects | 163.3 mg/kg bw/day |
| General population | Oral | Long-term systemic effects | 0.81 mg/kg bw/day |
| General population | Oral | Short-term systemic effects | 0.81 mg/kg bw/day |

Zinc Sulphate Monohydrate

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|----------------------------|------------------------|
| Workers | Inhalation | Long-term systemic effects | 1 mg/m ³ |
| Workers | Dermal | Long-term systemic effects | 8.3 mg/kg bw/day |
| General population | Inhalation | Long-term systemic effects | 1.25 mg/m ³ |
| General population | Dermal | Long-term systemic effects | 8.3 mg/kg bw/day |
| General population | Oral | Long-term systemic effects | 0.83 mg/kg bw/day |

Cobalt

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|----------------------------|-----------------------|
| Workers | Inhalation | Long-term local effects | 40 µg/m ³ |
| General population | Inhalation | Long-term local effects | 6.3 µg/m ³ |
| General population | Oral | Long-term systemic effects | 29.8 µg/kg bw/day |

Nickel Sulphate Hexahydrate

| Application Area | Exposure routes | Health Effect | Value |
|--------------------|-----------------|-----------------------------|------------------------|
| Workers | Inhalation | Long-term systemic effects | 0.05 mg/m ³ |
| Workers | Inhalation | Short-term systemic effects | 104 mg/m ³ |
| Workers | Inhalation | Long-term local effects | 0.05 mg/m ³ |
| Workers | Inhalation | Short-term local effects | 1.6 mg/m ³ |
| Workers | Dermal | Long-term local effects | 0 mg/kg bw/day |
| General population | Inhalation | Long-term systemic effects | 60 ng/m ³ |
| General population | Inhalation | Short-term systemic effects | 8.8 mg/m ³ |
| General population | Inhalation | Long-term local effects | 60 ng/m ³ |
| General population | Inhalation | Short-term local effects | 0.1 mg/m ³ |
| General population | Oral | Long-term systemic effects | 0.011 mg/kg bw/day |
| General population | Oral | Short-term systemic effects | 0.37 mg/kg bw/day |

Predicted No Effect Concentration (PNEC):
2-Hydroxypropane-1,2,3-tricarboxylic acid

| Compartment | Value |
|------------------------|------------------------|
| Fresh water | 0.44 mg/L |
| Marine water | 0.044 mg/L |
| Sewage treatment plant | 1000 mg/L |
| Fresh water sediment | 34.6 mg/kg sediment dw |
| Marine sediment | 3.46 mg/kg sediment dw |
| Soil | 33.1 mg/kg soil dw |

Ferrous Sulphate Monohydrate

None established

Copper Sulphate Pentahydrate

| Compartment | Value |
|-------------|-------|
|-------------|-------|

| | |
|------------------------|-----------------------|
| Fresh water | 7.8 µg/L |
| Marine water | 5.2 µg/L |
| Sewage treatment plant | 230 µg/L |
| Fresh water sediment | 87 mg/kg sediment dw |
| Marine sediment | 676 mg/kg sediment dw |
| Soil | 65 mg/kg soil dw |

Manganese Sulphate Monohydrate

| Compartment | Value |
|------------------------|-------------------------|
| Fresh water | 0.03 mg/L |
| Marine water | 0 mg/L |
| Sewage treatment plant | 56 mg/L |
| Fresh water sediment | 0.011 mg/kg sediment dw |
| Marine sediment | 0.001 mg/kg sediment dw |
| Soil | 25.1 mg/kg soil dw |

Disodium Octaborate Tetrahydrate

| Compartment | Value |
|------------------------|-------------------|
| Fresh water | 2.9 mg/L |
| Marine water | 2.9 mg/L |
| Sewage treatment plant | 10 mg/L |
| Soil | 5.7 mg/kg soil dw |

Zinc Sulphate Monohydrate

| Compartment | Value |
|------------------------|-------------------------|
| Fresh water | 20.6 µg/L |
| Marine water | 6.1 µg/L |
| Sewage treatment plant | 100 µg/L |
| Fresh water sediment | 117.8 mg/kg sediment dw |
| Marine sediment | 56.5 mg/kg sediment dw |
| Soil | 35.6 mg/kg soil dw |

Cobalt

| Compartment | Value |
|------------------------|------------------------|
| Fresh water | 0.62 µg/L |
| Marine water | 2.36 µg/L |
| Sewage treatment plant | 0.37 mg/L |
| Fresh water sediment | 53.8 mg/kg sediment dw |
| Marine sediment | 69.8 mg/kg sediment dw |
| Soil | 10.9 mg/kg soil dw |

Nickel Sulphate Hexahydrate

| Compartment | Value |
|------------------------|-----------------------|
| Fresh water | 7.1 µg/L |
| Marine water | 8.6 µg/L |
| Sewage treatment plant | 0.33 mg/L |
| Fresh water sediment | 109 mg/kg sediment dw |
| Marine sediment | 109 mg/kg sediment dw |
| Soil | 29.9 mg/kg soil dw |

Secondary poisoning - predators

0.12 mg/kg food

8.2 Exposure controls

Appropriate Engineering Measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level.

Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Concentrations should be monitored hazardous substances in the workplace in accordance with recognized test methods. Mode, method, type and frequency of testing and measurement of harmful factors in the working environment should meet the requirements of local/regional/national laws.

Individual protection measures, such as personal protective equipment:

Eye and face protection: Wear safety goggles.

Skin protection:

Hand protection: Wear appropriate chemical resistant gloves. Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Other skin protection: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Wash hands after use.

Respiratory protection: Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits. Use respirators and components tested and approved under appropriate government standards such as NIOSH or MSHA-approved respiratory protection.

Thermal hazards: None known.

Environmental exposure controls: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|--------------------------------------|----------------|
| Appearance: | Powder |
| Colour: | Pale green |
| Odour: | Faint odour |
| Odour threshold: | Not determined |
| pH (1% solution): | 3 |
| Melting point/Freezing point: | Not determined |
| Initial boiling point/boiling range: | Not determined |

| | |
|---|---|
| Flash point: | Not determined |
| Evaporation rate: | Not determined |
| Flammability (solid, gas): | Not applicable |
| Upper/lower flammability or explosive limits: | |
| Flammability limit – lower (%): | Not determined |
| Flammability limit – upper (%): | Not determined |
| Vapour pressure: | Not determined |
| Vapour density (air=1): | Not determined |
| Relative Density: | Not determined |
| Solubility(ies): | Highly soluble |
| Partition coefficient Octanol/Water: | Not determined |
| Auto-ignition temperature: | Not determined |
| Decomposition temperature: | Not determined |
| Viscosity at 20°C: | Not determined |
| Explosive properties: | Product does not present an explosion hazard. |
| Oxidising properties: | Not expected to be an oxidizer. |

9.2 Other information:

No further data available

SECTION 10: STABILITY AND REACTIVITY
10.1 Reactivity

No hazardous reactions anticipated under normal storage and handling conditions.

10.2 Chemical stability

Stable under normal ambient and anticipated conditions of use.

10.3 Possibility of hazardous reactions

None expected

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid high temperatures.

10.5 Incompatible materials

Materials to avoid include; reducing substances under specific conditions

10.6 Hazardous Decomposition products:

Carbon oxides, sulphur oxides and metallic oxides

SECTION 11: TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
Acute toxicity:

| Product/ingredient name | Test | Species | Dose |
|---|-----------------|---------|--------------|
| 2-Hydroxypropane-1,2,3-tricarboxylic acid | LD50 Oral | Rat | 11700 mg/kg |
| | LD50 Dermal | Rabbit | > 2000 mg/kg |
| | LC50 Inhalation | Rat | None known |

| | | | |
|----------------------------------|---|------------------------|--|
| Ferrous Sulphate Monohydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Mouse Rabbit Rat | 1520 mg/kg None known None known |
| Copper Sulphate Pentahydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Mouse | 482 mg/kg > 2000 mg/kg None known |
| Manganese Sulphate Monohydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Rat | 2150 mg/kg (anhydrous) None known > 4.45 mg/l 4h (anhydrous) |
| Disodium Octaborate Tetrahydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Rat | 2,550 mg/kg > 2000 mg/kg None known |
| Zinc Sulphate Monohydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Rat | None known None known None known |
| Cobalt | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Rat | 6171 mg/kg None known None known |
| Nickel Sulphate Hexahydrate | LD50 Oral LD50 Dermal LC50 Inhalation | Rat Rabbit Rat | 361 mg/kg None known 2.48 mg/l 4h |

| | |
|---|---|
| Skin corrosion/irritation: | Causes skin irritation. |
| Serious eye damage/eye irritation: | Expected to cause serious eye damage. Symptoms may include eye damage, burns, stinging, tearing, redness, swelling, and blurred vision. |
| Respiratory or skin sensitization: | Not expected to cause respiratory or skin sensitization. |
| Germ cell mutagenicity: | This product is not anticipated to be a mutagen. |
| Carcinogenicity: | May cause cancer by inhalation. |
| Reproductive toxicity: | This product is expected to cause damage to fertility or the unborn child due to the ingredient Disodium Octaborate Tetrahydrate. |
| STOT - Single exposure: | This material is not expected to cause damage from a single exposure. |
| STOT - Repeat exposure: | This product is not expected to cause damage to organs after prolonged or repeated exposure. |
| Aspiration hazard: | This product is not anticipated to be an aspiration hazard if swallowed. |

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Very toxic to aquatic life with long lasting effects

| | |
|-----------------------|---|
| Substance name | Toxicity to fish / other aquatic invertebrates |
|-----------------------|---|

| | |
|---|---|
| 2-Hydroxypropane-1,2,3-tricarboxylic acid | Fish LC50 - <i>Leuciscus idus</i> (Golden orfe) - 440 - 760 mg/l - 96 h Invertebrates EC50 <i>Daphnia magna</i> (Water flea) - ca. 120 mg/l - 72 h Algae IC5 - <i>M.aeruginosa</i> - 80 mg/l - 8 d Bacteria EC5 - <i>Pseudomonas putida</i> - > 10,000 mg/l - 16 h |
| Ferrous Sulphate Monohydrate | No data available |
| Copper Sulphate Pentahydrate | Invertebrates - EC50 - <i>Daphnia magna</i> (Water flea) - 0.024 mg/l - 48 h |
| Manganese Sulphate Monohydrate | Algae ErC50 - <i>Desmodesmus subspicatus</i> (green algae) - 61 mg/l - 72 h |
| Disodium Octaborate Tetrahydrate | Fish LC50 - <i>Pimephales promelas</i> (fathead minnow) – 380 mg/l - 96 h Invertebrates LC50 - <i>Daphnia magna</i> (Water flea) - 635 mg/l - 48 h Algae EC50 - <i>Pseudokirchneriella subcapitata</i> - 191 mg/l – 72 h |
| Zinc Sulphate Monohydrate | No data available |
| Cobalt | Fish LC50 - <i>Danio rerio</i> (zebra fish) - 100.01 mg/l - 96 h |
| Nickel Sulphate Hexahydrate | No data available |

12.2 Persistence and Degradability:

No data available for this product

12.3 Bioaccumulative potential:

No data available for this product.

12.4 Mobility in soil:

No data available for this product

12.5 Results of PBT and vPvB assessment:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects:

None known.

12.7 Additional information:

None known.

SECTION 13: DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods:
Product

Do not allow product to reach sewage system.

Dispose of waste materials in accordance with applicable local and national laws and regulations.

Where possible, recycling is preferred to disposal or incineration. Contact the proper local authorities.

Contaminated packaging

Since emptied containers retain product residue, follow label warnings even after container is emptied.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: TRANSPORT INFORMATION

International transport regulations

14.1 UN number:

ADR/RID: UN 3077

IMDG: UN 3077

IATA: UN 3077

14.2 Proper shipping name:

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Copper sulphate, Zinc sulphate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Copper sulphate, Zinc sulphate)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Copper sulphate, Zinc sulphate)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

14.4 Packing group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazard

Marine Pollutant: Yes

14.6 Special precautions for user

No data available

14.7 Transport to bulk according to Annex II of MARPOL and the IBC Code

Not applicable

Section 15: REGULATORY INFORMATION

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

This safety datasheet complies with the requirements of:

EU Commission Regulation (EU) 2015/830 (Reach)

EU Regulation (EC) No 1272/2008 (CLP)

EINECS: All components in this product are listed on the European Inventory of Existing Chemical Substance

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out on this product.

Section 16: OTHER INFORMATION

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

Acute Tox Acute Toxicity
Aquatic Acute Aquatic Toxicity, Acute Exposure
Aquatic Chronic Aquatic Toxicity, Chronic Exposure
Carc Carcinogenicity

| | Eye Irrit | Eye Irritation |
|----------------|--|----------------|
| Eye Dam | Eye Damage | |
| Muta. | Germ Cell Mutagenicity | |
| Repr. Tox | Reproductive Toxicity | |
| Resp. Sens. | Respiratory Sensitizer | |
| STOT RE | Specific Target Organ Toxicity, Repeated Exposure | |
| Skin Irrit | Skin Irritation | |
| Skin Sens | Skin Sensitizer | |
| | | |
| H302 | Harmful if swallowed | |
| H315 | Causes skin irritation | |
| H317 | May cause an allergic skin reaction | |
| H318 | Causes serious eye damage | |
| H332 | Harmful if inhaled | |
| H319 | Causes serious eye irritation | |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled | |
| H341 | Suspected of causing genetic defects | |
| H350i | May cause cancer by inhalation. | |
| H360D | May damage the unborn child. | |
| H360FD | May damage fertility. May damage the unborn child | |
| H372 | Causes damage to organs through prolonged or repeated exposure if inhaled. | |
| H373 | May cause damage to organs through prolonged or repeated exposure | |
| H400 | Very toxic to aquatic life | |
| H410 | Very toxic to aquatic life with long lasting effects | |
| H411 | Toxic to aquatic life with long lasting effects | |
| | | |
| P201 | Obtain special instructions before use. | |
| P202 | Do not handle until all safety precautions have been read and understood. | |
| P264 | Wash thoroughly after handling. | |
| P270 | Do not eat, drink or smoke when using this product. | |
| P273 | Avoid release to the environment | |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. | |
| P301+P312 | IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. | |
| P302+P352 | IF ON SKIN: Wash with plenty of water. | |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. | |
| P308+P313 | IF exposed or concerned: Get medical advice/attention. | |
| P310 | Immediately call a POISON CENTER/ doctor | |
| P321 | Specific treatment (see section 4 to 8 on the SDS and any additional information on this label). | |
| P330 | Rinse mouth. | |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. | |
| P362+P364 | Take off contaminated clothing and wash it before reuse. | |
| P391 | Collect spillage. | |
| P405 | Store locked up | |
| P501 | Dispose of contents/container to a suitable disposal point in accordance with local/regional/national/international regulations. | |

Training advice: Before using/handling the product one must read carefully present SDS.

Abbreviations and acronyms:

| | |
|--------|--|
| ACGIH: | American Conference of General Industrial Hygienist |
| ADR: | Accord européen sur le transport des marchandises dangereuses par Route (European) |
| BCF: | Bio Concentration Factor |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society) |

| | |
|---------|--|
| CLP: | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| DGR: | Dangerous Goods Regulations |
| DNEL: | Derived No Effect Level |
| EC50: | Half maximal effective concentration |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| EU: | European Union |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals |
| IATA: | International Air Transport Association |
| IBC: | International Bulk Code |
| IMDG: | International Maritime Code for Dangerous Goods |
| IOELV: | Indicative Occupational Exposure Limit Value |
| LC50: | Lethal concentration, 50 percent |
| LD50: | Lethal dose, 50 percent |
| MARPOL: | International Convention for the Prevention of Pollution from Ships |
| OEL: | Occupational Exposure Level |
| OSHA: | Occupational Safety and Health Administration |
| PBT: | Persistent, Bioaccumulative and Toxic |
| PEL: | Permissible Exposure Limit |
| PNEC: | Predicted No Effect Level |
| REACH: | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| SCBA: | Self Contained Breathing Apparatus |
| SCL: | Specific Concentration Limits |
| STEL: | Short Term Exposure Limit |
| TLV: | Threshold Limit Value |
| TWA: | Time Weighted Average |
| UN: | United Nations |
| VPvB: | Very Persistent and very Bioaccumulative |
| WEL: | Workplace Exposure Limit |

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