# Safety Data Sheet

(according to the last version of the Reg. (EC) 1907/2006 – art. 31)

# Microsap Bio Fe

## Safety Data Sheet dated 29/5/2025, version 1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification: Iron based fertilizer solution

Trade name: Microsap Bio Fe

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

Recommended use:

Fertilizer

1.3. Details of the supplier of the safety data sheet

Company:

NDG NATURAL DEVELOPMENT GROUP Srl

Via Quasimodo, 42 - 40013 Castel Maggiore (BO) Tel.: +390514121099

Competent person responsible for the safety data sheet:

e-mail: ndggroup@ndggroup.eu

1.4. Emergency telephone number

EUROPEAN EMERGENCY NUMBER h 24/24: 112

## SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)



Warning, Eye Irrit. 2, Causes serious eye irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Warning

Hazard statements:

H319 Causes serious eye irritation.

Precautionary statements:

P264 Wash hands thoroughly after handling.

P280 Wear eye/face protection.

P337+P313 If eye irritation persists: Get medical advice/attention.

Special Provisions:

None

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards:

No other hazards

## SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

| Qty | Name | Ident. Number | Classification |
|---|---|---|---|
| >= 20% - < 25% | iron (II) sulfate (1:1) heptahydrate | Index number: 026-003-01-4<br>CAS: 7782-63-0<br>EC: 231-753-5 | 3.3/2 Eye Irrit. 2 H319<br>3.2/2 Skin Irrit. 2 H315<br>3.1/4/Oral Acute Tox. 4 H302<br>Specific Concentration Limits:<br>C >= 25%: Skin Irrit. 2 H315 |

All the constituents of the mixture are in compliance with EC Regulation 1907/2006 and have been registered by the manufacturers / importers / only representatives when mandatory: the registration numbers will be available to the Authority within seven days of their request.
Other substances may be present exempt from registration as required by article 2 or because they are produced / imported in quantities less than one ton per year.

## SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Wash thoroughly the body (shower or bath).
Remove contaminated clothing immediatley and dispose off safely.
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

4.2. Most important symptoms and effects, both acute and delayed: None

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment: None

## SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Water. Carbon dioxide (CO2).
Extinguishing media which must not be used for safety reasons:
None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

## SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:
Wear personal protection equipment.

Remove persons to safety.
See protective measures under point 7 and 8.
For emergency responders:
Wear personal protection equipment.

6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up
Wash with plenty of water.

6.4. Reference to other sections: See also section 8 and 13

## SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
See also section 8 for recommended protective equipment.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities
Keep away from food, drink and feed.
Incompatible materials: None in particular.
Instructions as regards storage premises: Adequately ventilated premises.

7.3. Specific end use(s): None in particular

## SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No occupational exposure limit available

DNEL Exposure Limit Values
iron (II) sulfate (1:1) heptahydrate - CAS: 7782-63-0
Worker Industry: 13.95 mg/kg bw/day - Consumer: 6.95 mg/kg bw/day - Exposure: Dermic - Frequency: Long Term, systemic effects - Endpoint: Repeated dose toxicity
Consumer: 1.39 µg/kg bw/day - Exposure: Oral - Frequency: Long Term, systemic effects - Endpoint: Repeated dose toxicity
Consumer: 20 mg/kg bw/day - Exposure: Oral - Frequency: Short Term, systemic effects - Endpoint: Acute toxicity - Notes: irritazione gastrointestinale sui neonati

PNEC Exposure Limit Values : N.A.

8.2. Exposure controls
Eye protection: Use close fitting safety goggles, don't use eye lens.
Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.
Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.
Respiratory protection: Not needed for normal use.
Thermal Hazards: None
Environmental exposure controls: None
Appropriate engineering controls: None

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Properties | Value | Method: | Notes |
|---|---|---|---|
| Physical state: | Liquid | -- | -- |
| Colour: | Not Relevant | -- | -- |
| Odour: | Typical | -- | -- |
| Melting point/freezing point: | Not Relevant | -- | -- |
| Boiling point or initial boiling point and boiling range: | Not Relevant | -- | -- |
| Flammability: | Non-flammable | -- | -- |
| Lower and upper explosion limit: | Not Relevant | -- | -- |
| Flash point: | Not Relevant | -- | -- |
| Auto-ignition temperature: | Not Relevant | -- | -- |
| Decomposition temperature: | Not Relevant | -- | -- |
| pH: | 3 | -- | -- |
| Kinematic viscosity: | Not Relevant | -- | -- |
| Solubility in water: | Not Relevant | -- | -- |
| Solubility in oil: | Not Relevant | -- | -- |
| Partition coefficient n-octanol/water (log value): | Not Relevant | -- | -- |
| Vapour pressure: | Not Relevant | -- | -- |
| Density and/or relative density: | 1200 g/l | -- | -- |
| Relative vapour density: | Not Relevant | -- | -- |
| Particle characteristics: | | | |
| Particle size: | N.A. | -- | -- |

9.2. Other information

| Properties | Value | Method: | Notes |
|---|---|---|---|
| Miscibility: | completely miscible in water | -- | -- |

## SECTION 10: Stability and reactivity

10.1. Reactivity: Stable under normal conditions
10.2. Chemical stability: Stable under normal conditions
10.3. Possibility of hazardous reactions: None
10.4. Conditions to avoid: Stable under normal conditions.
10.5. Incompatible materials: None in particular.
10.6. Hazardous decomposition products: None.

## SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Toxicological information of the product:
Microsap Bio Fe
a) acute toxicity
Not classified
Based on available data, the classification criteria are not met
b) skin corrosion/irritation
Not classified
Based on available data, the classification criteria are not met
c) serious eye damage/irritation
The product is classified: Eye Irrit. 2 H319
d) respiratory or skin sensitisation
Not classified
Based on available data, the classification criteria are not met
e) germ cell mutagenicity
Not classified
Based on available data, the classification criteria are not met
f) carcinogenicity
Not classified
Based on available data, the classification criteria are not met

g) reproductive toxicity
Not classified
Based on available data, the classification criteria are not met
h) STOT-single exposure
Not classified
Based on available data, the classification criteria are not met
i) STOT-repeated exposure
Not classified
Based on available data, the classification criteria are not met
j) aspiration hazard
Not classified
Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:
iron (II) sulfate (1:1) heptahydrate - CAS: 7782-63-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 500 mg/kg bw
(test conducted with iron dichloride)
b) skin corrosion/irritation:
Skin Irritant
c) serious eye damage/irritation:
Eye Irritant
k) repeated dose toxicity:
Test: LOAEC - Route: Inhalation - Species: Rabbit = 1.4 mg/m$^3$
(test conducted with iron dichloride)

11.2. Information on other hazards
Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

## SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
Microsap Bio Fe
Not classified for environmental hazards
Based on available data, the classification criteria are not met
12.2. Persistence and degradability: N.A.
12.3. Bioaccumulative potential
iron (II) sulfate (1:1) heptahydrate - CAS: 7782-63-0
Low bioaccumulation potential
12.4. Mobility in soil: N.A.
12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None
12.6. Endocrine disrupting properties
No endocrine disruptor substances present in concentration >= 0.1%
12.7. Other adverse effects: None

## SECTION 13: Disposal considerations

13.1. Waste treatment methods
Recover if possible. In so doing, comply with the local and national regulations currently in force.

## SECTION 14: Transport information

14.1. UN number or ID number
Not classified as dangerous in the meaning of transport regulations.
14.2. UN proper shipping name: N.A.
14.3. Transport hazard class(es) : N.A.
14.4. Packing group: N.A.
14.5. Environmental hazards

ADR-Enviromental Pollutant: No
IMDG-Marine pollutant: No

14.6. Special precautions for user: N.A.

14.7. Maritime transport in bulk according to IMO instruments: N.A.

## SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH) consolidated
Regulation (EC) n. 1272/2008 (CLP) consolidated

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restrictions related to the substances contained:

Restriction 75

Sanitary checks.

Workers exposed to this hazardous chemical agent must be subjected to health surveillance carried out in accordance with the provisions of art. 41 of Legislative Decree 81 of 9 April 2008 unless the risk to the safety and health of the worker has been assessed as irrelevant, in accordance with the provisions of art. 224 paragraph 2.

Where applicable, refer to the following regulatory provisions :

Regulation (EU) 2019/1148 (explosives precursors)
Directive 2012/18/EU (Seveso III)
Regulation (EC) nr 648/2004 (detergents).
Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture while those of the registered substances contained therein are available.

## SECTION 16: Other information

Full text of phrases referred to in Section 3:

H319 Causes serious eye irritation.
H315 Causes skin irritation.
H302 Harmful if swallowed.

| Hazard class and hazard category | Code | Description |
|---|---|---|
| Acute Tox. 4 | 3.1/4/Oral | Acute toxicity (oral), Category 4 |
| Skin Irrit. 2 | 3.2/2 | Skin irritation, Category 2 |
| Eye Irrit. 2 | 3.3/2 | Eye irritation, Category 2 |

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| Classification according to Reg. (EC) Nr. 1272/2008 | Classification procedure |
|---|---|
| Eye Irrit. 2, H319 | Calculation method |

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

| | |
|---|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road. |
| ATE: | Acute Toxicity Estimate |
| ATEmix: | Acute toxicity Estimate (Mixtures) |
| CAS: | Chemical Abstracts Service (division of the American Chemical Society). |
| CLP: | Classification, Labeling, Packaging. |
| DNEL: | Derived No Effect Level. |
| EINECS: | European Inventory of Existing Commercial Chemical Substances. |
| GefStoffVO: | Ordinance on Hazardous Substances, Germany. |
| GHS: | Globally Harmonized System of Classification and Labeling of Chemicals. |
| IATA: | International Air Transport Association. |
| IATA-DGR: | Dangerous Goods Regulation by the "International Air Transport Association" (IATA). |
| ICAO: | International Civil Aviation Organization. |
| ICAO-TI: | Technical Instructions by the "International Civil Aviation Organization" (ICAO). |
| IMDG: | International Maritime Code for Dangerous Goods. |
| INCI: | International Nomenclature of Cosmetic Ingredients. |
| KSt: | Explosion coefficient. |
| LC50: | Lethal concentration, for 50 percent of test population. |
| LD50: | Lethal dose, for 50 percent of test population. |
| PNEC: | Predicted No Effect Concentration. |
| RID: | Regulation Concerning the International Transport of Dangerous Goods by Rail. |
| STEL: | Short Term Exposure limit. |
| STOT: | Specific Target Organ Toxicity. |
| TLV: | Threshold Limiting Value. |
| TWA: | Time-weighted average |
| WGK: | German Water Hazard Class. |