

Safety data sheet

According to Regulation 1907/2006/EC, Article 31 and Regulation 1272/2008/EC

Printing date 03.11.2023

Version number 1

Revision: 03.11.2023

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

- **1.1 Product identifier**
- **Trade name: NUTRILEAF HYBRID IRON-COPPER-SULFUR**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation:** Fertilizer.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:**
GLOBAL AGRO SOLUTION Ltd.
11B Nikolaj G. Stoletov Blvd.
1309 Sofia
Bulgaria
- **Further information obtainable from:** Phone: +359 883314508; +359 884739774
- **e-mail address of competent person responsible for the SDS:** office@globalagrosolution.com
- **1.4 Emergency telephone number**
Bulgarian National Toxicology Information Center
Hospital for Medical Treatment and Emergency Medicine "N.I.Pirogov" Sofia
Phone for emergency / fax: +359 2 9154 233
E-mail: poison_centre@mail.orbitel.bg

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008:**



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**
The product is classified and labelled according to the CLP regulation.

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· **Hazard pictograms:**

GHS05



GHS07



GHS09

· **Signal word:** *Danger*· **Hazard-determining components of labelling:**

ferrous sulfate heptahydrate
copper(II) sulfate, pentahydrate

· **Hazard statements:**

H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements:**

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.
P321 Specific treatment (see on this label).
P330 Rinse mouth.
P362+P364 Take off contaminated clothing and wash it before reuse.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Labelling of packages where the contents do not exceed 125 ml**· **Hazard pictograms**

GHS05



GHS07



GHS09

· **Signal word** *Danger*· **Hazard-determining components of labelling:**

ferrous sulfate heptahydrate
copper(II) sulfate, pentahydrate

· **Hazard statements**

H318 Causes serious eye damage.

· **Precautionary statements**

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.

· **2.3 Other hazards**· **Results of PBT and vPvB assessment**

· **PBT:** *Not applicable.*

· **vPvB:** *Not applicable.*

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SECTION 3: Composition / information on ingredients

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components

CAS: 7782-63-0 EINECS: 231-753-5 Index number: 026-003-01-4 Reg.nr.: 01-2119513203-57-XXXX	ferrous sulfate heptahydrate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319 Specific concentration limit: Skin Irrit. 2; H315: C ≥ 25 %	≥25-<50%
CAS: 7758-99-8 EINECS: 231-847-6 Index number: 029-023-00-4 Reg.nr.: 01-2119520566-40-XXXX	copper(II) sulfate, pentahydrate ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1); ⚠ Acute Tox. 4, H302 ATE: LD50 oral: 481 mg/kg	≥10-<25%

Non-dangerous components

CAS: 526-95-4 EINECS: 208-401-4 Reg.nr.: 01-2119454394-36-0000	D-gluconic acid	≥25-<50%
CAS: 7732-18-5 EINECS: 231-791-2	water, distilled, conductivity or of similar purity	≥10-<25%
CAS: 657-27-2 EINECS: 211-519-9	lysine hydrochloride	≥5-<10%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation: In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture No further relevant information available.

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- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
- **6.4 Reference to other sections**
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** No special precautions are necessary if used correctly.
- **Information about fire and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls / personal protection

- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace**

7782-63-0 ferrous sulfate heptahydrate

GS (Bulgaria)	Long-term value: 1 mg/m ³ kamo Fe
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· **DNELs:**

7758-99-8 copper(II) sulfate, pentahydrate

Oral	DNEL General population	0.041 mg/kg bw/day (Systemic effects) (Long term exposure) 0.082 mg/kg bw/day (Systemic effects) (Acute / Short term exposure)
Dermal	DNEL Workers	137 mg/kg bw/day (Systemic effects) (Long term exposure)
Inhalative	DNEL Workers	1 mg/m ³ (Local effects) (Long term exposure) 1 mg/m ³ (Systemic effects) (Long term exposure)

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· PNECs:**7758-99-8 copper(II) sulfate, pentahydrate**

PNEC sediment	87 mg/kg (freshwater) 676 mg/kg (marine water)
PNEC soil	65 mg/kg
PNEC sewage treatment plant (STP)	0.23 mg/l
PNEC aqua	7.8 µg/l (freshwater) 5.2 µg/l (marine water)

· **Additional information:** The lists valid during the making were used as basis.**· 8.2 Exposure controls**· **Appropriate engineering controls** No further data; see section 7.· **Individual protection measures, such as personal protective equipment**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.· **Hand protection**

Protective gloves

Protective gloves according to EN 374

The glove material has to be impermeable and resistant to the product/ the substance/ the mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves:**

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 mixture of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

PVC gloves

Natural rubber, NR

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

· **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.

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3).

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· Eye/face protection



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state

Fluid

· Colour:

Blue-green

· Odour:

Odourless

· Odour threshold:

Not determined.

· Melting point / Melting range:

-5 °C

· Boiling point or initial boiling point and boiling range

100 °C (7732-18-5 water, distilled, conductivity or of similar purity)

· Flammability

Not applicable.

· Lower and upper explosion limit

· Lower:

Not determined.

· Upper:

Not determined.

· SADT:

· Flash point:

Not applicable.

· Decomposition temperature:

Not determined.

· pH at 20 °C

3.5-6

· Viscosity

· Kinematic viscosity

Not determined.

· dynamic:

Not determined.

· Solubility

· Water:

Fully miscible.

· Partition coefficient n-octanol/water (log value)

Not determined.

· Vapour pressure at 20 °C:

23 hPa (7732-18-5 water, distilled, conductivity or of similar purity)

· Density and/or relative density

· Density at 20 °C:

1.3 g/cm³

· Relative density:

Not determined.

· Vapour density:

Not determined.

· 9.2 Other information:

· Appearance:

· Form:

Liquid

· Important information on protection of health and environment, and on safety

· Ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product does not present an explosion hazard.

· Change in condition

· Evaporation rate:

Not determined.

· Information with regard to physical hazard classes

· Explosives

Void

· Flammable gases

Void

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· Aerosols	<i>Void</i>
· Oxidising gases	<i>Void</i>
· Gases under pressure	<i>Void</i>
· Flammable liquids	<i>Void</i>
· Flammable solids	<i>Void</i>
· Self-reactive substances and mixtures	<i>Void</i>
· Pyrophoric liquids	<i>Void</i>
· Pyrophoric solids	<i>Void</i>
· Self-heating substances and mixtures	<i>Void</i>
· Substances and mixtures, which emit flammable gases in contact with water	<i>Void</i>
· Oxidising liquids	<i>Void</i>
· Oxidising solids	<i>Void</i>
· Organic peroxides	<i>Void</i>
· Corrosive to metals	<i>Void</i>
· Desensitised explosives	<i>Void</i>

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials** No further relevant information available.
- **10.6 Hazardous decomposition products** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.
- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**

· Endocrine disrupting properties
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None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.

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- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:**
Very toxic for fish
Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
Toxic for aquatic organisms

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA | <p style="text-align: center;">UN3287</p> |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | <p>3287 TOXIC LIQUID, INORGANIC, N.O.S. (ferrous sulfate heptahydrate, copper(II) sulfate, pentahydrate), ENVIRONMENTALLY HAZARDOUS</p> <p>TOXIC LIQUID, INORGANIC, N.O.S. (ferrous sulfate heptahydrate, copper(II) sulfate, pentahydrate)</p> |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR | <div style="display: flex; align-items: center; justify-content: center;">   </div> |
| <ul style="list-style-type: none"> · Class | <p>6.1 Toxic substances.</p> |

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· Label	6.1
· IMDG, IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards	Product contains environmentally hazardous substances: copper(II) sulfate, pentahydrate
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Toxic substances.
· Hazard identification number (Kemler code):	60
· EMS Number:	F-A,S-A
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport / Additional information	
· ADR	
· Limited quantities (LQ):	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· Transport category:	2
· Tunnel restriction code:	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (FERROUS SULFATE HEPTAHYDRATE, COPPER(II) SULFATE, PENTAHYDRATE), 6.1, III, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture**
 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

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Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

· **Directive 2012/18/EU (Seveso III)**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category E1** Hazardous to the Aquatic Environment

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations:**

National laws and regulations of the relevant Member State which implement the following Community provisions shall be mentioned:

COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases:**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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