

**SAFETY DATA SHEET**  
**VitaFer Cu – Suspension Foliar Fertilizer**

**SECTION 1 IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY**

1.1 Product identifier	<b>VitaFer Cu</b>
1.2 Relevant identified uses	Fertilizer for fertilizing farm plants, vegetables and orchard plants
1.2 Uses advised against	other than the ones mentioned above
1.3 Details of the supplier	VITAFER Sp. z o.o. Sp.k. 19 Aleja Krakowska str., 05-555 Tarczyn
Responsible for the Safety Data Sheet	office@vitafer.pl
1.4 Emergency telephone number	112
Prepared on	01-01-2020 (version 01)

**SECTION 2 HAZARDS IDENTIFICATION**

**Classification of the mixture**

**2.1.1 Classification according to Regulation (EC) 1272/2008** (See SECTION 16 for full text of the H phrases)

Product not classified as dangerous.

**2.2 Label elements in compliance with Regulation (EC) 1272/2008**

N/A

**2.3 Other hazards**

For professional use only.

“EC Fertilizer”

“Type C 1.1. A solution of a nitrogen fertilizer with micronutrients: copper (Cu), manganese (Mn) and zinc (Zn)”

PBT and vPvB criteria: not fulfilled.

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

**The mixture contains:**

Name of the substance	Index number	CE number	CAS number	Concentration	EC No. 1272/2008 classification
Potassium hydroxide *	01-2119487136-33-0005	215-181-3	1310-58-3	>2 –<3%	H360FD
Copper sulphate	01-2119520566-40-0004	232-086-9	7758-98-8	>15 –≤20%	H350; H360D H302; H318 H317; H373 H400; H410
Sodium glucoheptonate, 30% solution	Pending registration	250-480-2	31138-65-5	50 - 70%	-

(See SECTION 16 for full text of the H phrases)

\*Specific limit concentration for potassium hydroxide:

Skin Corr. 1A; H314; C ≥ 5 %

Skin Corr. 1B; H314; 2 % ≤ C < 5 %  
Skin Irrit. 2; H315; 0.5 % ≤ C < 2 %  
Eye Irrit. 2; H319; 0.5 % ≤ C < 2 %  
(See SECTION 16 for full text of the R and H phrases)

## SECTION 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

**General remarks** – Remove contaminated clothing and shoes and wash before using again. In the event of exposure or contact: consult/visit a doctor. Show the container or label.

**Inhalation** – Remove from the area of exposure to fresh air.

**Skin contact** –. Remove contaminated clothing, wash skin with a lot of water. If skin is irritated, consult a dermatologist.

**Eye contact** – Irrigate copiously with water for at least 15 minutes, holding the eyelids apart. Remove contact lenses. Avoid strong water jet due to risk of damage to cornea. Seek medical advice immediately.

**Ingestion** – Do not give any medicines to the unconscious person.

**Personal protective equipment for a paramedic** – not specified.

### 4.2 Most important symptoms and effects, both acute and delayed:

No data available

### 4.3 Indication of immediate medical attention and special treatment needed

Hand the doctor the safety data sheet of the mixture.

## SECTION 5 FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media:** the product is non-flammable. Use extinguishing media suited to the materials stored in the immediate vicinity.

**Extinguishing media not to be used:** not specified

### 5.2 Special hazards arising from the mixture

During fire nitrogen and sulphur oxides may be produced.

### 5.3 Advice for fire-fighters

Do not stay in the danger zone without appropriate chemical protective clothing and a self-contained breathing apparatus.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Protective equipment – for personal protective equipment see section 8 – prevention of skin and eye contamination.
- Emergency procedures – not specified

For emergency responders: not specified

### 6.2 Environmental precautions

Do not allow large quantities of the substance enter the sewerage system and water reservoirs. Prevent further spreading.

### 6.3 Methods and materials for containment and cleaning up

The released product must be put in a waste container (use industrial vacuum cleaners or sprinkle with a sorbent). Dispose of selectively in accordance with the applicable regulations.

### 6.4 Reference to other sections.

Section 8.

## SECTION 7 HANDLING AND STORAGE

## 7.1 Precautions for safe handling

Fire precautions: the product is non-flammable

Precautions against the generation of aerosols – not specified

Environment protection measures – the product must be used in accordance with the manufacturer's instructions (appropriate dilution)

Follow the occupational health and safety regulations and use protective equipment (see section 8). Avoid contamination of eyes and skin.

Do not eat, drink or smoke while using the product. Wash hands after the use.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in the original, closed and appropriately marked containers. Avoid exposure to high temperatures and direct sunlight. The appropriate range of storage temperature is +5°C to +30°C (the optimum temperature is 25°C). Store in a dry and well ventilated place. Secure the containers against physical damage. The warehouse should be locked and inaccessible for unauthorised persons.

On contact with bases an exothermic reaction may be triggered.

## 7.3 Specific end use(s)

No additional instructions.

# SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

Permissible national occupational exposure limits

Copper sulphate:	TLV-TWA	0.2 mg/m <sup>3</sup>	TLV-STEL	no data available
Potassium hydroxide:	TLV-TWA	0.5 mg/m <sup>3</sup>	TLV-STEL	1 mg/m <sup>3</sup>

Legal basis: The decree of the Minister of Labour and Social Policy of 29.11.2002 on maximum allowable concentrations and threshold limit values of agents with adverse health effects in workplace (Journal of Laws No. 217 item 1833).

## Monitoring methods:

PN-EN 14042 Workplace atmospheres. The guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

## DNEL values; workers:

*Copper sulphate:*

DNEL (oral; short-term exposure) – 0.082 mg/kg bw/day

Long-term systemic effect; effect on respiratory tract 0,041 mg/kg bw/day

*Potassium hydroxide:*

Long-term systemic effect; effect on respiratory tract 1 mg/kg bw/day

## PNEC values

Copper sulphate:	Ground water – 7.8 µg/l
	Sea water – 5.2 µg/l
	Fresh water sediment – 87 mg/kg dw
	Sea water sediment – 676 mg/kg dw
	Soil – 65.5 mg/kg dw

## 8.2 Exposure controls

### Appropriate engineering controls

Provide general ventilation and local exhaust ventilation. Do not smoke in the workplace. Do not eat and drink while handling the product. Wash hands carefully with soap and water after finishing work, after a break, before eating, smoking, using the toilet.

### Individual protection measures:

- Eye and face protection – protective goggles with side protection in accordance with PN – EN 166
- Hand protection – protective gloves tested and chosen based on the standards PN-EN 374-2 and 374-3,
- Respiratory protection – AP filters required when vapours/mists are generated
- Skin protection – protective clothing

- Environmental exposure controls – do not allow the product to enter the sewerage system. Prevent further spreading if it is safe. In rivers, lakes or sewage are contaminated with the product, inform authorities.

### 8.3 Environmental exposure controls

Before the product is used, assess the occupational risk and take appropriate preventive measures.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties	Test method
Appearance	Green suspension
Odour	Typical
Odour threshold	N/A
pH of 1% solution	5.0 – 6.5
Melting/freezing point	No data available
Boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	N/A
Upper/lower flammability limit	N/A
Upper/lower explosive limit	N/A
Vapour pressure	No data available
Vapour density	No data available
Relative density	1.35 kg/l
Water solubility	Soluble in water
Partition coefficient n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

**9.2 Other information** none

## SECTION 10 STABILITY AND REACTIVITY

### 10.1. Reactivity

Non-reactive while stored, used and applied under normal conditions.

### 10.2. Chemical stability

The product is stable under recommended use and storage conditions.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

Keep away from high temperature and direct sunlight. Avoid changes in temperature. Do not allow the temperature to drop below 5°C.

### 10.5. Incompatible materials No data available

No data available.

### 10.6. Hazardous decomposition products

During fire or on heating it may produce copper and sulphur oxides.

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects of the mixture

**Acute toxicity:** no data on the mixture available

**Skin irritation/corrosion:** no data on the mixture available

**Eye irritation/damage:** no data on the mixture available

**Respiratory or skin sensitisation:** no data on the mixture available

**Mutagenicity:** no data on the mixture available

**Carcinogenicity:** no data on the mixture available

**Reproductive toxicity:** no data on the mixture available

**Specific target organ toxicity – single exposure:** no data on the mixture available

**Specific target organ toxicity – repeated exposure:** no data on the mixture available

**Aspiration risk:** no data on the mixture available

## Data on the components

Potassium hydroxide:

Acute toxicity:

LD50 (oral rat) 333 mg/kg

## SECTION 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity - for the mixture

#### Acute toxicity (short-term):

Fish - no data available

Crustaceans - no data available

Algae/aquatic plants - no data available

Other organisms - no data available

#### Chronic toxicity

Fish - no data available

Crustaceans - no data available

Algae/aquatic plants - no data available

Other organisms - no data available

Data on the components:

Copper sulphate

Acute toxicity (LC50/96 h) for fish  $\leq 1$  mg/l – very toxic for aquatic organisms.

IC50/72 h (half maximal concentration inhibiting growth) for algae  $< 1$  mg/l

Acute toxicity for aquatic environment, Category 1: Very toxic for aquatic organisms.

### 12.2. Persistence and degradability – no data on the mixture.

Components – copper sulphate is not biodegradable.

### 12.3 Bioaccumulative potential – no data on the mixture available.

Components:

Copper sulphate – the value of the bioconcentration factor for copper sulphate determined in the tests is higher than 100, which suggests substantial bioaccumulation.

### 12.4 Mobility in soil – no data on the mixture available.

### 12.5 Results of PBT and vPvB assessment – no data on the mixture available.

### 12.6. Other adverse effects – no data on the mixture available.

## SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods:

- Empty, not cleaned container – recycling
- Mixture – dilute with water, it is not recommended to drain the product that is not diluted.

Sorbent with the mixture – consult an expert

Waste catalogue no.:

02 01 09 - Agrochemical waste other than those mentioned in 02 01 08

15 01 12 - Plastic packaging.

Recycling waste – key information – no data available

Sewage disposal – key information – no data available

Other instructions on waste treatment

The containers must be well emptied and then disposed of in accordance with the applicable regulations.

The waste must be treated appropriately, in consideration of the regional, national and European regulations as well as in consideration of the local conditions, by the entity whose business is waste treatment.

## SECTION 14 TRANSPORT INFORMATION

The product is not classified as hazardous in transport.

## SECTION 15 REGULATORY INFORMATION

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

#### Special legal regulations referring to this mixture

Directive 96/82/EC and the decree of the Minister of Economy on the types and amount of dangerous substances whose presence in a facility make it a high risk facility or a facility with a high risk of a serious industrial emergency, dated 10 October 2013 (Journal of Laws 2013, item 1479).

**The mixture is not mentioned in an annex to this decree.**

#### EU regulations

1. 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 Directives 91/155/EEC, 93/67/EEC, 93/105/EEC AND 2000/21/EC. (Revision of the Regulation L136/3 of 29-05-2007)
2. 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
3. Commission Regulation (EU) No. 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
4. Regulation (EC) No. 2003/2003 of the European Parliament and of the Council of 13 October 2003 relating to fertilizers

#### National regulations:

5. Act of 25 February 2011 on chemical substances and their mixtures (Journal of Laws 2011, No. 63, item 322 as amended)
6. Act of 27 April 2011 – Environmental Protection Law - (uniform text, Journal of Laws 2013, No. 0, item 1232 as amended)
7. Decree of the Minister of Health, dated 20 April 2012, on the labelling of the packaging of dangerous substances and dangerous mixtures and some other mixtures (Journal of Laws 2012, No. 0, item 445 as amended)
8. Decree of the Minister of Health, dated 10 August 2012, on the criteria and method of the classification of chemical substances and their mixtures (Journal of Laws 2012, No. 0, item 1018 as amended)
9. Government order, dated 24 August 2004, on the list of works that the juveniles are not allowed to perform and the conditions in which they can perform those works (Journal of Laws 2004, No. 200, item 2047 as amended)
10. Government order, dated 10 September 1996, on the list of works that women are not allowed to perform (Journal of Laws 1996, No. 114, item 545 as amended)
11. Government announcement, dated 28 May 2013, on the amendments to the Annexes A and B to the European Agreement concerning the International Carriage of Dangerous Goods by Road ADR, concluded in Geneva on 30 September 1957, becoming effective (Journal of Laws 2013\_0\_815)
12. Act of 10 July 2007 on fertilizers and fertilization and its later amendments
13. Waste Act of 14 December 2012 (Journal of Laws 2012.21 as amended)

## 15.2 Chemical safety assessment

The manufacturer has not performed a chemical safety assessment of the mixture.

### SECTION 16 OTHER INFORMATION

**List of amendments:** N/A

#### **Classification according to Regulation (EC) 1272/2008**

It was determined based on the pH of the mixture and the products of the reaction of the mixture components – copper glucoheptonate (copper chelate) that it is not dangerous.

#### **Full text of H phrases and other abbreviations referring to Section 2 and 3**

H 290	May be corrosive to metals.
H 302	Harmful if swallowed
H 314	Causes severe skin burns and eye damage
H 317	May cause an allergic skin reaction
H 318	Causes serious eye damage
H 350	May cause cancer.
H 360D	May damage fertility or the unborn child.
H 373	May cause damage to organs through prolonged or repeated exposure
H 400	Very toxic to aquatic life
H 410	Very toxic to aquatic life with long lasting effects

#### **Mixture classification methods**

It was determined based on the pH of the mixture and the products of the reaction of the mixture components – copper glucoheptonate (copper chelate) that it is not dangerous.

#### **Recommended training:**

- On-the-job training
- Training on the hazards related to the mixture and the preventive measures in the occupational hazard assessment
- Training on actions to be taken in the event of a release of the substance

#### **Abbreviations and acronyms:**

DNEL: Derived No Effect Level  
PNEC: Predicted No Effect Concentration  
SVHC: Substance of Very High Concern  
TLV-TWA: Threshold limit value - time-weighted average  
TLV-STEL: Threshold limit value - short-time exposure limit  
PBT: Persistent bioaccumulative toxic chemical  
vPvB: very persistent and very bioaccumulative  
LD50: Median lethal dose  
LC50: Lethal concentration  
EC50: Median effective concentration  
NOEC: No observable effect concentration

**Other information**

The information above has been prepared based on our current knowledge and describe the product in terms of environmental protection and safe use. The information is no guarantee of the product quality or a quality specification of the product and no complaints can be based on the information.

**Sections amended:** N/A