

Prepared in accordance with EC Regulation 1907/2006 (REACH), as amended.

Section 1: Identification of substance/mixture and identification of company

1.1 Product ID

Trade name: VitaStar® SUPER Zn+B

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

Identified uses: fluid foliar fertiliser. For professional use.

Uses advised against: not specified.

1.3 Data regarding the supplier of the safety data sheet

Manufacturer: Novagra Sp. z o.o.

Address: ul. S. Staszica 21/2, 05-825 Grodzisk Mazowiecki, Poland

Telephone/fax: +48 22 731 92 92/ +48 22 731 96 93

E-mail address of the person responsible for the safety data sheet: biuro@novagra.com.pl

1.4 Emergency phone number

112 (emergency number), 998 (fire department), 999 (medical emergency)

Section 2: Hazard identification

2.1 Substance or mixture classification

Repr. 1B H360FD

Suspected of damaging fertility. Suspected of damaging the unborn child.

2.2 Marking components

Hazard pictograms and signal words



DANGER

Names of hazardous components to be included on the label

Contains: boric acid.

Hazard statements

H360FD Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 If exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container to suitably labelled waste containers in accordance with national regulation.

Section 3: Composition/information on ingredients

3.1 Substances

Does not apply.

3.2 Mixtures

CAS number: 10043-35-3 EC number: 233-139-2 Index number: 005-007-00-2 Relevant registration number: 01-2119486683-25-XXXX	<u>boric acid</u> Repr. 1B H360FD Specific concentration limits: Repr. 1B H360FD C ≥ 5.5 %	≤ 20 %
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The full text of the H-phrases is reproduced in the section 16 of the sheet.

Section 4: first-aid measures

4.1 Description of the first-aid measures

Skin contact: rinse exposed skin areas thoroughly with plenty of soapy water. Take off the contaminated clothes. In case of disturbing symptoms consult a physician.

Eye contact: remove contact lenses. In case of contact with eyes, rinse thoroughly with water for at least 15 minutes. Avoid strong water jet – risk of corneal damage. In case of disturbing symptoms, consult a physician.

In the event of ingestion: do not induce vomiting. Rinse with water. Never put anything to the mouth of an unconscious person. In case of disturbing symptoms consult a physician, show them package or label.

After inhalation exposure: consult a physician in case of any disturbing ailments. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact: possible redness, drying, degreasing.

Eye contact: possible redness, tearing, burning, temporary irritation.

If swallowed: possible abdominal pains, nausea.

After inhaling: no adverse health effects are expected from exposure via this route.

Other exposure effects: suspected of damaging fertility or the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

Decision on the rescue procedure is taken by a physician following thorough examination of victim's condition. Treat symptomatically. Symptoms of poisoning may occur several hours after exposure and the victim should remain under medical observation for at least 48 hours.

Section 5: Firefighting measures

5.1 Extinguishing agents

Adequate extinguishing agents: product is non-flammable. Adjust fire extinguishing agents to the surrounding materials.

Unsuitable extinguishing agents: water jet – the risk of fire spreading.

5.2 Special hazards arising from the substance or mixture

Harmful gases containing boron compounds and other unidentified thermal decomposition products may be released during combustion. Avoid inhalation of combustion products and may pose a health hazard.

5.3 Advice for firefighters:

General protection measures typical in the case of fire. Do not stay in a fire-endangered area without appropriate chemical-resistant clothing and self-contained breathing apparatus. Cool fire endangered containers with water from a safe distance. Collect used extinguishing agents.

Section 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures

Restrict the access of bystanders to the endangered area until the relevant clean-up operations are completed. In case of large releases, isolate the endangered area. Ensure that breakdown and its results are eliminated by a properly trained staff only. Use necessary personal protection equipment. Avoid skin and eyes contamination. Do not inhale fumes. Ensure proper ventilation.

6.2 Environmental precautions

Do not let product into groundwater, reservoirs and watercourses or to sewerage systems. If necessary, call the appropriate rescue services.

6.3 Methods and material for containment and cleaning up

Cover the released product with liquid-absorbing material (e.g. sand, diatomaceous earth) and place in labelled containers. Treat the collected material as waste. Clean and thoroughly ventilate contaminated site.

6.4 Reference to other sections

Personal Protective Equipment – section 8 of the sheet. Disposal of product waste – section 13 of the sheet.

Section 7: Handling and storage
7.1 Precautions for safe handling

Work in accordance with safety and hygiene rules. Do not eat, drink nor smoke in the workplace. Wash hands before break and after work is finished. Ensure adequate ventilation. Do not inhale fumes. Avoid skin and eyes contamination. Keep containers tightly closed when not in use. Use necessary personal protection equipment.

7.2 Conditions for safe storage, including any incompatibilities

Store only in original, tightly sealed containers, if provided by the manufacturer, in dry, cool and well ventilated place. Keep away from foodstuffs, animal feed and other incompatible materials (see subsection 10.5). Avoid open flames and heat sources. The recommended storage temperature is from 0-30°C.

7.3 Specific end-use application(-s)

No information on applications other than those listed in subsection 1.2.

Section 8: Exposure controls/personal protection
8.1 Control parameters

Product does not contain components that are subject to workplace exposure controls (legal basis: OJ 2018, item 1286).

DNEL values for boric acid [CAS 10043-35-3]

Dermal exposure, chronic toxicity, systemic effects 392 mg/kg body mass/day Inhalation, chronic toxicity, systemic effect 8.3 mg/m³

PNEC values for boric acid [CAS 10043-35-3]

fresh water	2.02 mg/l
saltwater	2.02 mg/l
soil	5.4 g/kg of dry substance
wastewater treatment plants	10 mg/l
sporadic release	13.7 mg/kg

8.2 Exposure control

Observe the general safety and hygiene regulations. Do not eat, drink nor smoke while working. Wash hands thoroughly before break and after work is finished. Avoid contact with skin and eyes. Ensure general and/or local ventilation in the workplace. Use Personal Protective Equipment.

Hands and body protection:

Use protective gloves that are resistant to the product. Select the glove material individually at the workplace. If there is a risk of body contamination, wear protective work clothing appropriate to the potential risk.

The glove material must be impermeable and resistant to the product. The choice of material must be made taking into account the puncture times, the rate of penetration and the degradation. Furthermore, the choice of suitable gloves does not only depend on the material, but also on other quality characteristics and varies from manufacturer to manufacturer. The exact puncture time must be obtained from the glove manufacturer and observed. It is recommended to change gloves regularly and replace immediately if there are any signs of wear, damage or changes in appearance (colour, elasticity, shape).

Eye protection: If there is a danger of eye pollution, wear tight protective goggles.

Respiratory tracks protection: not required in normal conditions.

The applied personal protection measures have to meet the requirements included in the Regulation of the Minister of Economy of 21 December 2005 (OJ 259, item 2173) and Regulation (EU) 2016/425. Personal Protective Equipment (PPE) should be selected taking into account the concentration and distribution of the substance in the workplace, the routes of exposure, the duration of exposure and the activities of the worker. The employer is obliged to provide protective equipment that meets all quality requirements, including maintenance and cleaning.

Environment exposure control

Avoid discharges to the environment, do not empty into drains. Possible emissions from ventilation systems and process equipment should be checked to determine their compliance with the requirements of the environmental law.

Section 9: physical and chemical characteristics

9.1 Information on basic physical and chemical properties

appearance:	liquid/suspension
colour:	brown
odour:	characteristic, weak
odour threshold:	not determined
pH:	6.0-7.0
melting point/freezing point:	< 0 °C
Initial boiling point and boiling range:	> 100 °C
flash point:	not determined, non-flammable product
evaporation rate:	not determined
flammability (solid, gas):	does not apply
upper/lower flammability or explosive limits:	does not apply
vapour pressure:	not determined
vapour density:	not determined
relative density:	1.37 g/cm ³
solubility:	completely soluble in water
partition coefficient: n-octanol/water:	not determined
auto-ignition temperature:	not determined
decomposition temperature:	not determined
explosive properties:	does not show
oxidising properties:	does not show
viscosity:	not determined

9.2 Other information

No additional information.

Section 10: Stability and reactivity**10.1 Reactivity**

Product not very reactive. Does not undergo dangerous polymerization. See also subsections 10.3 – 10.5.

10.2 Chemical stability

When used and stored correctly, the product is stable.

10.3 Possibility of hazardous reactions

Dangerous reactions are not known.

10.4 Conditions to avoid

Avoid exposure to extremely high and low temperatures. Do not store in temperatures below 0 °C and above 30 °C.

10.5 Incompatible materials

Strong oxidizers, strong acids, strong alkalis, reducers.

10.6 Hazardous decomposition products

Under normal conditions the mixture does not show a tendency to decompose. In case of thermal decomposition, boron compounds may be emitted.

Section 11: Toxicological information**11.1 Information on toxicological effects****Substances toxicity**boric acid [CAS 10043-35-3]

LD ₅₀ (oral, rat)	3,450-4,080 mg/kg
LD ₅₀ (skin, rabbit)	> 2,000 mg/kg
LC ₅₀ (mist inhalation, rat)	2.03 mg/l/ 4h

Mixture toxicityAcute toxicity

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

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

Suspected of damaging fertility. Suspected of damaging the unborn child.

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.

Section 12: Ecological information**12.1 Toxicity****Substances toxicity**

boric acid [CAS 10043-35-3]

Acute toxicity for freshwater fish

LC₅₀ (96h): 79 mg/l

Acute toxicity for daphnia

EC₅₀ (48h): >133 mg/l

Acute toxicity for algae

EC₅₀ (74.5 h): 52.4 mg/l

Mixture toxicity

Mixture is not classified as hazardous to the environment.

12.2 Persistence and degradability

Does not apply for the non-organic products.

12.3 Bioaccumulative potential

The product does not bioaccumulate.

12.4 Mobility in soil

The mixture is freely soluble in water, after dissolution it can penetrate into groundwater. The mobility of the mixture components depends on their hydrophilic and hydrophobic properties as well as the abiotic and biotic conditions of the soil, including its structure, climatic conditions, season and soil organisms.

12.5 Results of PBT and vPvB assessment

Substances in the product shall not be evaluated as PBT or vPvB.

12.6 Other adverse effects

The product does not affect global warming and ozone layer destruction.

Section 13: Disposal considerations**13.1 Waste treatment methods**

Advice on mixture: do not empty into drains. Dispose in accordance with the applicable environmental regulations. Do not dispose with household waste. Store the residue in its original container. Do not mix with other waste. The waste code must be assigned at the place of production.

Advice on used packages: recover / recycle / dispose of packaging waste in accordance with the applicable regulations. Only completely emptied packaging may be used for recycling.

EU legislation: Directives of the European Parliament and of the Council: 2008/98/EC as amended; 94/62/EC as amended.

National laws: OJ 2013, item 21 as amended; OJ 2013 item 888 as amended.

Section 14: Transport information**14.1 UN number**

Does not apply. The product is not classified as hazardous during transport by sea, air or land.

14.2 UN proper shipping name

Does not apply.

14.3 Transport hazard class(es)

Does not apply.

14.4 Packing group

Does not apply.

14.5 Environmental hazards

Does not apply.

14.6 Special precautions for user

Does not apply.

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

Does not apply.

Section 15: Regulatory information

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

The Act of 25 February 2011 on chemical substances and their mixtures (OJ No. 63, item 322, as amended) Regulation of the Minister of Labour and Social Policy of 12 June 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (OJ 2018, item 1286).

Waste Act of 14 December 2012 (OJ 2013, item 21 as amended).

The Act of 13 June 2013 on management of packaging and packaging waste (OJ 2013, item 888, as amended).

Regulation of the Minister of the Environment of 9 December 2014 on the waste catalogue (OJ 2014, item 1923).

Regulation of the Minister of Economy of 21 December 2005 on essential requirements for personal protective equipment (OJ No. 259, item 2173).

Regulation of the Minister of Health of 2 February 2011 on research and measurement of factors harmful to health in the work environment (OJ No. 33, item 166).

1907/2006/EC Regulation 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, as amended.

1272/2008/EC Regulation 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, as amended.

2015/830/UE Commission regulation of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

2008/98/EC Directive of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives, as amended.

94/62/EC European Parliament and Council Directive of 20 December 1994 on packaging and packaging waste, as amended.

2016/425/UE Regulation of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

Additional information

This product contains Substances of Very High Concern (SVHCs) under Regulation (EC) No 1907/2006 as amended, Art. 59, in quantities exceeding statutory limits (> 0.1 % (aforementioned)). It contains boric acid CAS 10043-35-3, which is included in the candidate list.

15.2 Chemical safety assessment

No safety assessment is required for the mixture.

Section 16: Other information

Full text of H-phrases from section 3 of the card

H360FD Suspected of damaging fertility. Suspected of damaging the unborn child.

Explanation of abbreviations and acronyms

Repr. 1B Toxic for reproduction, category 1B

PBT Persistent, bioaccumulative and toxic substance

vPvB	Very persistent, bioaccumulative and toxic substance
LC ₅₀	The concentration of a compound in inhalation air that is lethal for 50% of a specific animal species after a specified period of inhalation.
LD ₅₀	A dose of a toxic substance, calculated in milligrams per kilogram of body weight, needed to kill 50% of the studied population.
DNEL	Derived dosage level (concentration) at which no harmful effects are observed.
PNEC	Predicted no-effect concentration.

Trainings

Before starting to work with the product, the user should familiarize themselves with occupational health and safety rules concerning handling chemicals, in particular, they should undergo appropriate workplace training.

Classification and procedures used to classify the mixture

The classification was made on the basis of physicochemical tests and data on the content of hazardous components using the calculation method based on the guidelines of Regulation 1272/2008/EC (CLP), as amended.

References to key literature and data sources

The safety data sheet has been developed on the basis of the safety data sheet provided by the manufacturer, literature data, internet databases, and the knowledge and experience available, taking into account the current legal regulations.

Additional information

Date of issue: 30.01.2019
Version: 1.0/ EN
Safety data sheet issued by: **"THETA"** Doradztwo Techniczne

The above information is based on the currently available data characterizing the product, experience and knowledge possessed by the manufacturer in this respect. They do not constitute a quality description of a product or a promise of specific characteristics. They are to be considered as aids to safe handling, transportation, storage and use of the product. This does not release the user from any liability for misuse of the above information and to comply with all applicable laws and regulations in this area.

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