SAFETY DATA SHEET according to Regulation 1907/2006 amended by 2015/830/EU

Product name: **NutriBOOST (NP 10:45 + 5 % S + 1 % Zn-microgranules)**
Creation date: **8.3.2019** · Revision: **13.4.2021** · Version: **1.1**

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

chemius.net/dpA27

Product name

NutriBOOST (NP 10:45 + 5 % S + 1 % Zn-microgranules)

Product code

[NutriBOOST EZ.var I; UFI: 6X20-T0Y9-J002-AVTU]

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

Relevant identified uses

MINERAL COMPLEX SOLID NP FERTILISER WITH SECONDARY NUTRIENT (S) AND MICRO-NUTRIENT (Zn)

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Manufacturer

ELIXIR ZORKA-MINERALNA ĐUBRIVA DOO ŠABAC in cooperation with ELIXIR PRAHOVO DOO PRAHOVO
Address: Hajduk Veljkova 1, 15000 Šabac, Serbia
Phone: +381 15 352 707
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Only Representative
BENS consulting d.o.o.
Address: Bakovniška ulica 7, 1241 Kamnik, Slovenia
Tel.: +386 41 979 800
e-mail: info@kemikalije.com
Point of contact for safety info: Simona Miklavčič

1.4. Emergency telephone number

112

+381 15 352 707

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Eye Dam. 1; H318 Causes serious eye damage.
Aquatic Chronic 3; H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]

Signal word: **Danger**

H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.
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.
P501 Dispose of contents/container in accordance with local regulations.

2.2.2. Contains:

superphosphates
zinc oxide

2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

No information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
ammonium dihydrogenorthophosphate	7722-76-1 231-764-5 -	69-79	not classified		01-2119488166-29
superphosphates	8011-76-5 232-379-5 -	10-20	Eye Dam. 1; H318		01-2119488967-11
ammonium sulphate	7783-20-2 231-984-1 -	5-15	not classified		01-2119455044-46
zinc oxide	1314-13-2 215-222-5 030-013-00-7	< 2,5	Aquatic Acute 1; H400 Aquatic Chronic 1; H410		01-2119463881-32

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

When in doubt or if feeling unwell seek medical assistance. Show the safety data sheet and label to the physician.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If victim is not breathing give artificial respiration. If symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water. If symptoms persist seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. After initial flushing, remove any contact lenses and continue flushing. Consult a physician immediately!

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. In case of doubt or if feeling unwell seek medical help. Show the physician the safety data sheet or label.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation

Breathing dust can irritate the respiratory tract.
Coughing, sneezing, nasal discharge, labored breathing.

Skin contact

Prolonged and repeated exposure may cause redness, itching and cracking of the skin in sensitive people.

Eye contact

On contact with eyes causes serious damage.

Ingestion

Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area.
May cause nausea/vomiting and diarrhea.

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

Symptoms of poisoning may appear several hours later. Keep under medical supervision for at least 48 hours.

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Water spray.
Water fog.

Unsuitable extinguishing media

Do not use chemical agents (CCl_4, CO_2, foam, powder) sand or water vapor.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of heating harmful vapours/gases can be generated.
Ammonia.

5.3. Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area. Consider the wind direction.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated firefighting water must be disposed of in accordance with the regulations; do not allow to reach the sewage system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Emergency procedures

Ensure adequate ventilation. Prevent access to unprotected personnel. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Mechanical (with overlapping plastic film) to prevent dispersal in the environment. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

Prevent spillage - close holes on damaged container.

6.3.2. For cleaning up

Prevent dusting. Collect in a suitable container and dispose of according to regulations. Dispose in accordance with applicable regulations (see Section 13).

6.3.3. Other information

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6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

Prevent dusting.

Measures to protect the environment

Do not discharge into drains, surface water and soil. After use immediately close container tightly.

7.1.2. Advice on general occupational hygiene

Ensure adequate ventilation. Avoid contact with skin and eyes. Do not breathe dust. Wear suitable protective equipment; see Section 8. Do not eat, drink or smoke while working. Use good personal hygiene practices – wash hands at breaks and when done working with material.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Store in accordance with local regulations. Keep in a cool, dry and well ventilated place. Protect against heat and direct sunlight. Keep away from food, drink and animal feeding stuffs. Keep unauthorized personnel away.

7.2.2. Packaging materials

PE, PP/PE

7.2.3. Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers.

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

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7.3. Specific end use(s)

Recommendations

Detailed instructions / recommendations for use are listed on the label on the package.

Industrial sector specific solutions

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

No information.

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

For components

Name	Type	Exposure route	Exposure frequency	Value	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	Worker	inhalation	long term (systemic effects)	6,1 mg/m^3	
ammonium dihydrogenorthophosphate (7722-76-1)	Worker	dermal	long term (systemic effects)	34,7 mg/kg bw/day	
ammonium dihydrogenorthophosphate (7722-76-1)	Consumer	inhalation	long term (systemic effects)	1,8 mg/m^3	
ammonium dihydrogenorthophosphate (7722-76-1)	Consumer	dermal	long term (systemic effects)	20,8 mg/kg bw/day	
ammonium dihydrogenorthophosphate (7722-76-1)	Consumer	oral	long term (systemic effects)	2,1 mg/kg bw/day	
superphosphates (8011-76-5)	Worker	inhalation	long term (systemic effects)	3,1 mg/m^3	
superphosphates (8011-76-5)	Worker	dermal	long term (systemic effects)	17,4 mg/kg bw/day	
superphosphates (8011-76-5)	Consumer	inhalation	long term (systemic effects)	0,9 mg/m^3	
superphosphates (8011-76-5)	Consumer	dermal	long term (systemic effects)	10,4 mg/kg bw/day	
superphosphates (8011-76-5)	Consumer	oral	long term (systemic effects)	2,1 mg/kg bw/day	
ammonium sulphate (7783-20-2)	Worker	inhalation	long term (systemic effects)	11,167 mg/m^3	
ammonium sulphate (7783-20-2)	Worker	dermal	long term (systemic effects)	42,667 mg/kg bw/day	
ammonium sulphate (7783-20-2)	Consumer	inhalation	long term (systemic effects)	1,667 mg/m^3	
ammonium sulphate (7783-20-2)	Consumer	dermal	long term (systemic effects)	12,8 mg/kg bw/day	
ammonium sulphate (7783-20-2)	Consumer	oral	long term (systemic effects)	6,4 mg/kg bw/day	
zinc oxide (1314-13-2)	Worker	inhalation	long term (systemic effects)	5 mg/m³	
zinc oxide (1314-13-2)	Worker	inhalation	long term (local effects)	0,5 mg/m³	
zinc oxide (1314-13-2)	Worker	dermal	long term (systemic effects)	83 mg/kg bw/day	
zinc oxide (1314-13-2)	Consumer	inhalation	long term (systemic effects)	2,5 mg/m³	
zinc oxide (1314-13-2)	Consumer	dermal	long term (systemic effects)	83 mg/kg bw/day	
zinc oxide (1314-13-2)	Consumer	oral	long term (systemic effects)	0,83 mg/kg bw/day	

8.1.4. PNEC values

For components

Name	Exposure route	Value	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	fresh water	1,7 mg/L	
ammonium dihydrogenorthophosphate (7722-76-1)	water, intermittent release	17 mg/L	fresh water
ammonium dihydrogenorthophosphate (7722-76-1)	marine water	0,17 mg/L	
ammonium dihydrogenorthophosphate (7722-76-1)	water treatment plant	10 mg/L	
superphosphates (8011-76-5)	fresh water	1,7 mg/L	
superphosphates (8011-76-5)	water, intermittent release	17 mg/L	fresh water
superphosphates (8011-76-5)	marine water	0,17 mg/L	
superphosphates (8011-76-5)	water treatment plant	10 mg/L	
ammonium sulphate (7783-20-2)	fresh water	0,321 mg/L	
ammonium sulphate (7783-20-2)	water, intermittent release	0,53 mg/L	fresh water
ammonium sulphate (7783-20-2)	marine water	0,031 mg/L	
ammonium sulphate (7783-20-2)	water treatment plant	16,18 mg/L	
ammonium sulphate (7783-20-2)	fresh water sediment	0,063 mg/kg	dry weight
ammonium sulphate (7783-20-2)	soil	62,6 mg/kg	dry weight
zinc oxide (1314-13-2)	fresh water	20,6 µg/l	
zinc oxide (1314-13-2)	marine water	6,1 µg/l	
zinc oxide (1314-13-2)	water treatment plant	100 µg/l	
zinc oxide (1314-13-2)	fresh water sediment	117,8 mg/kg	dry weight
zinc oxide (1314-13-2)	marine water sediment	56,5 mg/kg	dry weight
zinc oxide (1314-13-2)	soil	35,6 mg/kg	dry weight

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with eyes and skin. Do not breathe dust. Do not eat, drink or smoke while working.

Organisational measures to prevent exposure

Keep eyewash bottles or personal eyewash units and emergency showers available.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

8.2.2. Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Before use protect hands with suitable protective cream. Protective gloves (EN 374). (material: leather, rubber)

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

If concentration of airborne dust is elevated wear mask (EN 136/140) with filter P2 (EN 143). 'High/elevated concentrations' means that the occupational exposure limit values have been exceeded.

Thermal hazards

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8.2.3. Environmental exposure controls

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	**Physical state:**	solid; granules
-	**Colour:**	green
-	**Odour:**	no odour

Important health, safety and environmental information

-	**pH**	4,5 – 6
-	**Melting point/freezing point**	130 – 210 °C
-	**Initial boiling point/boiling range**	No information.
-	**Flash point**	No information.
-	**Evaporation rate**	No information.
-	**Flammability (solid, gas)**	Not flammable.
-	**Explosion limits (vol%)**	No information.
-	**Vapour pressure**	No information.
-	**Vapour density**	No information.
-	**Density**	**Bulk density**: 0,8 – 1,05 g/cm^3
-	**Solubility**	**Water**: Soluble
-	**Partition coefficient**	No information.
-	**Auto-ignition temperature**	Not self-igniting.
-	**Decomposition temperature**	No information.
-	**Viscosity**	No information.
-	**Explosive properties**	Product is not explosive.
-	**Oxidising properties**	Not oxidising.

9.2. Other information

-	**Remarks:**	Hygroscopic.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

Reacts with strong alkalis releasing ammonia.

10.4. Conditions to avoid

Keep away from heat and sources of ignition. Avoid contact with incompatible materials.

10.5. Incompatible materials

Strong bases.
Strong acids.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.
Ammonia;

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	oral	LD_{50}	rat		> 2000 mg/kg bw	OECD 425	7-14 days
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	LD_{50}	rat	24 h	> 5000 mg/kg bw	OECD 402	
ammonium dihydrogenorthophosphate (7722-76-1)	inhalation	LC_{50}	rat	4 h	> 5 mg/l air	OECD 403	dust/aerosol
superphosphates (8011-76-5)	oral	LD_{50}	rat		> 2000 mg/kg bw	OECD 425	7-14 days
superphosphates (8011-76-5)	dermal	LD_{50}	rat	24 h	> 5000 mg/kg bw	OECD 402	
superphosphates (8011-76-5)	inhalation	LC_{50}	rat	4 h	5 mg/l air	OECD 403	dust/aerosol
ammonium sulphate (7783-20-2)	oral	LD_{50}	rat	7 days	4250 mg/kg bw	OECD 401	
ammonium sulphate (7783-20-2)	dermal	LD_{50}	rat	14 days	> 2000 mg/kg bw	OECD 434	
ammonium sulphate (7783-20-2)	inhalation	LC_{50}	rat	4 h	3,6 mg/m^3	OECD 433	dust/aerosol
zinc oxide (1314-13-2)	oral	LD_{50}	rat	14 days	> 5000 mg/kg bw	OECD 401	
zinc oxide (1314-13-2)	dermal	LD_{50}	rat	24 h	> 2000 mg/kg bw	OECD 402	
zinc oxide (1314-13-2)	inhalation (dust/aerosol)	LC50	rat	4 h	> 5,7 mg ZnO/L	OECD 403	

Additional information: The product is not classified for acute toxicity.

(b) Skin corrosion/irritation

Name	Species	Time	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit	24 h	Dermal - erythema: score 0,25 (72h)	OECD 404	
superphosphates (8011-76-5)	rabbit		Dermal - erythema: score 0,25 Dermal - edema: score 0,25	OECD 404	24-72 h
ammonium sulphate (7783-20-2)	rabbit		Non-irritant.		24-72 h

(c) Serious eye damage/irritation

Name	Species	Time	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)			No irritant effect.	OECD 405	
superphosphates (8011-76-5)	rabbit		Corrosivity Category 1 (irreversible effects on the eye)	OECD 405 B.5	1/14/21 days
ammonium sulphate (7783-20-2)	rabbit		Can cause mild irritation.	BASF	24, 48, 72 h
zinc oxide (1314-13-2)	rabbit		Can cause mild irritation.	OECD 405	24, 72 h
Additional information: Causes serious eye damage.					

(d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	mouse		Non sensitising.	OECD 429; EU B.42	
superphosphates (8011-76-5)	dermal	mouse (female)		Non sensitising.	OECD 429	3-4 h
superphosphates (8011-76-5)	dermal	mouse (female)		Non sensitising.	OECD 442, EU Method B.42	2-3 days; 25µL/ear
ammonium sulphate (7783-20-2)	dermal	Guinea pig (female)		Slight sensitizer.	EPA 540/9-82-025	24-48 h; 76.5 mg
zinc oxide (1314-13-2)	dermal	Guinea pig (female)		Non sensitising.	OECD 406; EU method B.5	2 % solution
Additional information: The product is not classified as sensitising.						

(e) (Germ cell) mutagenicity

Name	Type	Species	Time	Result	Method	Remark
superphosphates (8011-76-5)		rat (*Salmonella typhimurium*)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	50µL; 125µL, 150µL
superphosphates (8011-76-5)		rat (*Escherichia coli*)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	50µL; 125µL, 150µL
ammonium sulphate (7783-20-2)	in-vitro mutagenicity	rat (*Salmonella typhimurium*)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	20, 100, 500, 2500, 5000 µg
ammonium sulphate (7783-20-2)	in-vivo mutagenicity	mouse (*Salmonella typhimurium*)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	62,5, 125, 250, 500 mg/kg bw
zinc oxide (1314-13-2)	in-vitro mutagenicity	rat (*Salmonella typhimurium*)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	1000-5000 µg/petri dish
zinc oxide (1314-13-2)	in-vivo mutagenicity	mouse (*Salmonella typhimurium*)	24 h	Negative with metabolic activation, negative without metabolic activation.	OECD 474	15, 30, 60 mg/kg bw

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

Name	Reproductive toxicity type	Type	Species	Time	Value	Result	Method	Remark
superphosphates (8011-76-5)	Reproductive toxicity	NOAEL	rat (oral)		750 mg/kg/day	Animal testing has shown negative effects on the development of the fetus / embryo.	OECD 422	
ammonium sulphate (7783-20-2)	oral	NOAEL	rat		1500 mg/kg/day		OECD 422	
zinc oxide (1314-13-2)	Reproductive toxicity	NOAEL (P)	rat		7,5 mg/kg bw/day		OECD 416	
zinc oxide (1314-13-2)	Reproductive toxicity	NOAEL (F1)	rat		15 mg/kg bw/day		OECD 416	

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

Additional information: STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure

Name	Exposure route	Type	Species	Time	Organ	Value	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	oral	NOAEL	rat			250 mg/kg		OECD 422	
superphosphates (8011-76-5)	oral	NOAEL	rat			1500 mg/kg	Morphologic changes, anisocytosis.	OECD 422	24 hours per day
ammonium sulphate (7783-20-2)	inhalation	NOAEC	hamster			186,6 µg/m3		OECD 422	6h/day
ammonium sulphate (7783-20-2)	oral	NOAEL	rat (female)			256 – 284 mg/kg	Weight increase of kidneys and spleen.	OECD 453	24 hours per day
zinc oxide (1314-13-2)	oral	NOAEL	rat			31,52 mg/kg bw	Changes on the body.	OECD 408	24 hours per day
zinc oxide (1314-13-2)	inhalation	NOAEL	rat			1,5 mg/m³ air		OECD 413	6h/day
zinc oxide (1314-13-2)	dermal	NOAEL	rat			75 mg/kg bw	Reduction of collagen content.	OECD 410	6h/day

Additional information: STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

Additional information: Aspiration hazard: Not classified.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	LL_{50}	85,9 mg/L	96 h	fish	*Oncorhynchus mykiss*	OECD 203	
	LC_{50}	1790 mg/L	72 h	crustacea	*Daphnia carinata*	OECD 202	
	EC_{50}	97,1 mg/L	72 h	algae	*Pseudokirchneriella subcapitata*	OECD 201	
superphosphates (8011-76-5)	LC_{50}	85,9 mg/L	4 days	fish	*Oncorhynchus mykiss*	OECD 203	
	LC_{50}	1790 mg/L	72 h	crustacea	*Daphnia carinata*	OECD 202	
	EC_{50}	100 mg/L	3 h	bacteria	Activated sludge	OECD 209	respiration inhibiton
	LC_{50}	1625 ppm	72 h	crustacea	*Moina micrura*	APHA	
	LC_{50}	2305 ppm	72 h	crustacea	*Cyclops viridis*	APHA	
	LC_{50}	3320 ppm	96 h	annelid	*Branchiura sowerbyi*	APHA	
	LC_{50}	1510 ppm	96 h	insect	*Chironomus*	APHA	
	LC_{50}	1133 ppm	96 h	insect	*Dragonfly nymph*	APHA	
	LC_{50}	5005 ppm	96 h	invertebrates	*Planorbis exustus*	APHA	
	LC_{50}	2950 ppm	96 h	invertebrates	*Lymnaea leuteola*	APHA	
	LC_{50}	2350 ppm	96 h	invertebrates	*Viviparus bengalensis*	APHA	
ammonium sulphate (7783-20-2)	LC_{50}	53 mg/L	96 h	fish	*Oncorhynchus mykiss*	OECD 203	
	EC_{50}	1605 mg/L	5 days	algae	*Chlorella vulgaris*	OECD 201	
	EC_{50}	121,7 mg/L	48 h	crustacea	*Ceriodaphnia acanthina*	OECD 202	
	EC_{20}	1050 mg/L	30 min	microorganisms	Activated sludge	OECD 209	respiration inhibiton
	EC_{50}	1618 mg/L	30 min	microorganisms	Activated sludge	OECD 209	respiration inhibiton
zinc oxide (1314-13-2)	LC_{50}	0,169 mg Zn/L	96 h	fish	*Oncorhynchus mykiss*	OECD 203	
	LC_{50}	0,7 mg Zn/L	96 h	fish	*Pimephales promelas*	OECD 203	
	EC_{50}	1,7 – 9 mg/L	48 h	crustacea	*Daphnia magna*	OECD 202	
	LC_{50}	0,136 mg Zn/L	3 days	algae	*Selenastrum capricornutum*	OECD 201	
	EC_{50}	0,413 mg/L	48 h	crustacea	*Ceriodaphnia acanthina*	OECD 202	
	EC10/LC10	100 mg/L	180 min	microorganisms	Activated sludge	OECD 209	respiration inhibiton

12.1.2. Chronic (long-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
superphosphates (8011-76-5)	NOEC	87,6 mg/l	72 h	algae	*Pseudokirchneriella subcapitata*	OECD 201	
ammonium sulphate (7783-20-2)	EC_{10}	5,29 mg/l	30 days	fish	*Lepomis macrochirus*	BASF test	
	EC_{10}	3,12 mg/l	70 days	aquatic invertebrate	*Hyalella azteca*		
zinc oxide (1314-13-2)	NOEC	0,019 mg Zn/L	3 days	algae	*Selenastrum capricornutum*	OECD 201	

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

No information.

Additional information

Nitrogen is biodegradable. Phosphorus can form insoluble iron/aluminum phosphates or is incorporated into soil organic matter. Biodegradable products that follow the natural cycle of nitrification/denitrification of nitrogen which is the basis for plant nutrition.

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

No information.

Additional information

No bioaccumulation expected.

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

No information.

Additional information

Partly soluble in water. The NH_4^+ ion is absorbed by soil particles. Phosphorus enters shortly into soil solution, but is soon bound to soil components and becomes immobile.

12.5. Results of PBT and vPvB assessment

No evaluation.

12.6. Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation, endocrine disruption, global warming) are expected.

12.7. Additional information

For product

Harmful to aquatic organisms. May cause long term adverse effects in the aquatic environment.
Avoid release to the environment.
Do not allow to reach ground water, water courses or sewage system.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste. Do not allow product to reach drains/sewage systems. Dispose according to regulations.

Packaging

Packaging is not suitable for use for other purposes and should be left to an authorized waste contractor. The packaging must be disposed in accordance with local or national regulations.

Waste codes / waste designations according to LoW

15 01 02 - plastic packaging
15 01 03 - wooden packaging

13.1.2. Waste treatment-relevant information

Disposal in accordance with the Rules on the management of waste.

13.1.3. Sewage disposal-relevant information

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13.1.4. Other disposal recommendations

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SECTION 14. TRANSPORT INFORMATION

14.1. UN number

Not applicable.

14.2. UN proper shipping name

ADR, RID, IMDG, ADN, IATA: Not dangerous according to transport regulations.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Not applicable.

14.7. Transport in 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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

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Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient

LC_{50} - Lethal Concentration to 50 % of a test population
LD_{50} - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

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List of relevant H phrases

H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.