

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **NPK 16:27:7 + 9 % S + 0.1 % B + 0.1 % Zn**
Creation date: 5.12.2019 · Version: 1

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

1.1. Product identifier

Product name

NPK 16:27:7 + 9 % S + 0.1 % B + 0.1 % Zn

Product code

[ES NPK 16:27:7 EZ.var III]



chemius.net/XXg56

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

Relevant identified uses

MINERAL COMPLEX SOLID NPK FERTILISER WITH SECONDARY NUTRIENT (S) AND MICRO-NUTRIENTS (B,Zn);

NPK (S) 16-27-7 (9) with boron (B) and zinc (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 1 562 19 20
e-mail: info@kemikalije.com
Point of contact for safety info: Simona Miklavčič

1.4. Emergency telephone number

Emergency

112

Supplier

+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)

According to the regulation, the product is not classified as hazardous.

2.2 Label elements

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

Pictograms not applicable according to Regulation 1272/2008.

2.2.2. Contains:

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2.2.3. Special provisions

Special hazards are not known or expected.

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2.3. Other hazards

No information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product description

NPK 16:27:7 + 9 % S + 0.1 % B + 0.1 % Zn

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 -	58-74	not classified		01-2119488166-29
ammonium sulphate	7783-20-2 231-984-1 -	29-42	not classified		01-2119455044-46
potassium chloride	7447-40-7 231-211-8 -	7-17	not classified		-
urea	57-13-6 200-315-5 -	2-4	not classified		01-2119463277-33
colemanite	12291-65-5 602-907-2 -	1.5-3.5	not classified		-
zinc oxide	1314-13-2 215-222-5 030-013-00-7	≤0.2	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. Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency.

Following inhalation

Remove patient to fresh air - move out of dangerous area. If victim is not breathing give artificial respiration. Obtain professional medical help!

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. Wash contaminated clothes and shoes before reuse.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. After initial flushing, remove any contact lenses and continue flushing. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Consult a physician. Show the physician the safety data sheet or label.

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

Inhalation

Breathing dust can irritate the respiratory tract.

May cause irritation of upper respiratory tract: signs / symptoms include coughing and sneezing.

Skin contact

Powder can cause localised skin irritation in folds of the skin or under tight clothing.

Contact with skin may cause irritation (redness, itching).

Eye contact

Dust irritates the eyes (by mechanical means).

Contact with eyes can cause irritation (redness, tearing, pain).

Ingestion

May cause nausea/vomiting and diarrhea.

May cause abdominal discomfort.

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.

Unsuitable extinguishing media

Do not use chemical agents (CCl₄, CO₂, foam, powder) sand or water vapor.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke.

Ammonia.

Chlorine. Hydrogen chloride gas.

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.

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. Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

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).

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Emergency procedures

Ensure adequate ventilation. Prevent access to unprotected personnel.

6.1.2. For emergency responders

Use personal protective equipment.

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. 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. Take up mechanically and collect in suitable container and dispose according to current 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 allow it to flow into sewerage systems, surface waters and soil. Close the packaging tightly immediately after use.

7.1.2. Advice on general occupational hygiene

Refer to instructions on label and regulations for safety and health at work. Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin and eyes. Do not breathe dust. Wear suitable protective equipment; see Section 8.

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 cool and well ventilated area. Keep in a dry place. Keep away from moisture. Protect against heat and direct sunlight. Keep away from food, drink and animal feeding stuffs.

7.2.2. Packaging materials

Keep in containers of the same material as the original one. PE, PP/PE

7.2.3. Requirements for storage rooms and vessels

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

7.2.4. Storage class

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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

Name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m ³ (ppm)	mg/m ³	ml/m ³ (ppm)	mg/m ³		
Product		6			dust - alveolar fraction	

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	dermal	long term (systemic effects)	34,7 mg/kg bw/day	
ammonium dihydrogenorthophosphate (7722-76-1)	Worker	inhalation	long term (systemic effects)	6,1 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	inhalation	long term (systemic effects)	1,8 mg/m ³	
ammonium dihydrogenorthophosphate (7722-76-1)	Consumer	oral	long term (systemic effects)	2,1 mg/kg bw/day	
ammonium sulphate (7783-20-2)	Worker	dermal	long term (systemic effects)	42,667 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)	Consumer	dermal	long term (systemic effects)	12,8 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	oral	long term (systemic effects)	6,4 mg/kg bw/day	
potassium chloride (7447-40-7)	Worker	inhalation	long term (systemic effects)	1064 mg/m ³	
potassium chloride (7447-40-7)	Worker	inhalation	short term (systemic effects)	5320 mg/m ³	
potassium chloride (7447-40-7)	Worker	dermal	long term (systemic effects)	303 mg/kg bw/day	

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potassium chloride (7447-40-7)	Worker	dermal	short term (systemic effects)	910 mg/kg bw/day
potassium chloride (7447-40-7)	Consumer	inhalation	long term (systemic effects)	273 mg/m ³
potassium chloride (7447-40-7)	Consumer	inhalation	short term (systemic effects)	1365 mg/m ³
potassium chloride (7447-40-7)	Consumer	dermal	long term (systemic effects)	182 mg/kg bw/day
potassium chloride (7447-40-7)	Consumer	dermal	short term (systemic effects)	910 mg/kg bw/day
potassium chloride (7447-40-7)	Consumer	oral	long term (systemic effects)	91 mg/kg bw/day
potassium chloride (7447-40-7)	Consumer	oral	long term (systemic effects)	455 mg/kg bw/day
urea (57-13-6)	Worker	inhalation	long term (systemic effects)	292 mg/m ³
urea (57-13-6)	Worker	inhalation	short term (systemic effects)	292 mg/m ³
urea (57-13-6)	Worker	dermal	long term (systemic effects)	580 mg/kg bw/day
urea (57-13-6)	Worker	dermal	short term (systemic effects)	580 mg/kg bw/day
urea (57-13-6)	Consumer	inhalation	long term (systemic effects)	125 mg/m ³
urea (57-13-6)	Consumer	inhalation	short term (systemic effects)	125 mg/m ³
urea (57-13-6)	Consumer	dermal	long term (systemic effects)	580 mg/kg bw/day
urea (57-13-6)	Consumer	dermal	short term (systemic effects)	580 mg/kg bw/day
urea (57-13-6)	Consumer	oral	long term (systemic effects)	42 mg/kg bw/day
urea (57-13-6)	Consumer	oral	short term (systemic effects)	42 mg/kg bw/day
zinc oxide (1314-13-2)	Worker	inhalation	long term (systemic effects)	5 mg/m ³
zinc oxide (1314-13-2)	Worker	inhalation	long term (local effects)	0,5 mg/m ³
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/m ³
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

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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)	marine water	0,17 mg/L	
ammonium dihydrogenorthophosphate (7722-76-1)	water, intermittent release	17 mg/L	
ammonium dihydrogenorthophosphate (7722-76-1)	water treatment plant	10 mg/L	
ammonium sulphate (7783-20-2)	fresh water	0,312 mg/L	
ammonium sulphate (7783-20-2)	marine water	0,0312 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
ammonium sulphate (7783-20-2)	water treatment plant	16,18 mg/kg	
ammonium sulphate (7783-20-2)	water, intermittent release	0,53 mg/L	fresh water
potassium chloride (7447-40-7)	fresh water	0,1 mg/L	
potassium chloride (7447-40-7)	water, intermittent release	1 mg/L	fresh water
potassium chloride (7447-40-7)	marine water	0,1 mg/L	
potassium chloride (7447-40-7)	water treatment plant	10 mg/L	
urea (57-13-6)	fresh water	0,47 mg/L	
urea (57-13-6)	marine water	0,047 mg/L	
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 eat, drink or smoke while working. Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Organisational measures to prevent exposure

Remove all contaminated clothes immediately and wash them before reuse.

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

Protective gloves (EN 374). (material: leather, rubber)

Skin protection

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

Respiratory protection

In case of high dust concentrations use a dust protection mask (EN140; EN 136) with filter P2 (EN 14387).

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Thermal hazards

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8.2.3. Environmental exposure controls

Substance/mixture related measures to prevent exposure

Avoid discharge into drains and surface waters.

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	6 – 7,5
- 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: 0,65 – 0,85 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.
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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.

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10.4. Conditions to avoid

Keep away from heat and sources of ignition.

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; Chlorine. Hydrogen chloride (HCl).

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	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
potassium chloride (7447-40-7)	oral	LD ₅₀	rat		2100 – 3900 mg/kg bw	OECD 401	7-12 h
potassium chloride (7447-40-7)	-	LD ₅₀	mouse		620 mg/kg bw		
urea (57-13-6)	oral	LD ₅₀	rat		600 mg/kg bw		
urea (57-13-6)	dermal	LD ₅₀	rat		9400 mg/kg bw		
urea (57-13-6)	dermal	LD ₅₀	rat		8200 mg/kg bw		
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 (dusts/mists)	LC ₅₀	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 - edema: score 0,25 (72h)	OECD 404	
ammonium sulphate (7783-20-2)	rabbit		Non-irritant.		24-72 h
urea (57-13-6)	rabbit		May cause skin irritation.	OECD 404, EU B.4	24, 48, 72 h

Additional information: The product is not classified as irritating to the skin.

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(c) Serious eye damage/irritation

Name	Species	Time	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit		Irritating to eyes; inflammation of the iris, cornea, conjunctivitis.	OECD 405	
ammonium sulphate (7783-20-2)	rabbit		Can cause mild irritation.	BASF	24, 48, 72 h
potassium chloride (7447-40-7)	rabbit	24 h	Irritating.		
urea (57-13-6)	rabbit		May cause eye irritation.	OECD 405	24, 48, 72 h
zinc oxide (1314-13-2)	rabbit		Conjunctivitis.	OECD 405	24, 72 h

Additional information: The product is not classified as an irritant to the eyes.

(d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	Result	Method	Remark
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	mouse (female)		Non sensitising.	OECD 429; EU B.42	
ammonium sulphate (7783-20-2)	dermal	guinea pig		Slight sensitizer.	EPA 540/9-82-025	24-48 h; 76.5 mg
zinc oxide (1314-13-2)	dermal	Guinea pig (female)		Non sensitising.	EU B.6, OECD 406	2 %

Additional information: The product is not classified as sensitising.

(e) (Germ cell) mutagenicity

Name	Type	Species	Time	Result	Method	Remark
ammonium sulphate (7783-20-2)	in-vitro mutagenicity	rat (<i>Salmonella typhimurium</i>)		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 (<i>Salmonella typhimurium</i>)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	62,5, 125, 250, 500 mg/kg bw
potassium chloride (7447-40-7)	in-vitro mutagenicity			Negative with metabolic activation, negative without metabolic activation.	OECD 471	100000, 333000, 1000000, 3333000, 10000000 µg/Petri dish
urea (57-13-6)	in-vitro mutagenicity	mouse		Positive with metabolic activation, positive without metabolic activation.		20,2- 43,0 g/L
urea (57-13-6)	in-vivo mutagenicity	mouse		Positive with metabolic activation, positive without metabolic activation.		500 mg
zinc oxide (1314-13-2)	in-vitro mutagenicity	rat (<i>Salmonella typhimurium</i>)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	1000-5000 µg/petri dish
zinc oxide (1314-13-2)	in-vivo mutagenicity	mouse (<i>Salmonella typhimurium</i>)	24 h	Negative with metabolic activation, negative without metabolic activation.	OECD 474	15, 30, 60 mg/kg bw

(f) Carcinogenicity

No information.

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(g) Reproductive toxicity

Name	Reproductive toxicity type	Type	Species	Time	Value	Result	Method	Remark
ammonium sulphate (7783-20-2)	oral	NOAEL	rat		1500 mg/kg/day		OECD 422	
urea (57-13-6)	Developmental toxicity	NOAEL	rat		1000 mg/kg bw/day	Negative.	OECD 414	
zinc oxide (1314-13-2)	Reproductive toxicity	NOAEL (P)	rat (oral)		7,5 mg/kg bw/day		OECD 416	
zinc oxide (1314-13-2)	Reproductive toxicity	NOAEL (F1)	rat (oral)		15 mg/kg bw/day		OECD 416	7.2 mg Zn/kg bw/dan

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	
ammonium sulphate (7783-20-2)	inhalation	NOAEC	hamster			186,6 µg/m ³		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
potassium chloride (7447-40-7)	oral	NOAEL	rat (male)			110 – 1820 mg/kg bw			24 hours per day
urea (57-13-6)	oral	NOAEL	mouse	12 months		45000 ppm		NCI study.	
zinc oxide (1314-13-2)	oral	NOAEL	rat (male/female)			31,52 mg/kg bw	Changes on the body.	OECD 408	24 hours per day
zinc oxide (1314-13-2)	inhalation	NOAEL	rat (male/female)			1,5 mg/m ³ air	The increase of lymphocytes.	OECD 413	6h/day
zinc oxide (1314-13-2)	dermal	NOAEL	rat (male/female)			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.

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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)	LC ₅₀	85,9 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD Guideline 203 (Fish, Acute Toxicity Test)	
	EC ₅₀	97,1 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	
	LC ₅₀	1790 mg/L	72 h	crustacea	<i>Daphnia carinata</i>	OECD 202	
ammonium sulphate (7783-20-2)	LC ₅₀	53 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	EC ₅₀	121,7 mg/L	48 h	algae	<i>Ceriodaphnia acanthina</i>	OECD 202	
	EC ₅₀	1605 mg/L	5 days	algae	<i>Chlorella vulgaris</i>	OECD 201	
	EC ₂₀	1050 mg/L	30 min	microorganisms	Activated sludge	OECD 209	respiration inhibitor
	EC ₅₀	1618 mg/L	30 min	microorganisms	Activated sludge	OECD 209	respiration inhibitor
urea (57-13-6)	LC ₅₀	6810 mg/L	48 h	fish	<i>Oreochromis mossambicus</i>		
	EC ₅₀	10000 mg/L	24 h	insect	<i>Aedes aegypti</i>		
	EC ₅₀	29 mg/L	72 h	bacteria	<i>Pseudomonas putida</i>	OECD 209	respiration inhibitor
zinc oxide (1314-13-2)	LC ₅₀	0,169 mg Zn/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	LC ₅₀	0,7 mg Zn/L	96 h	fish	<i>Pimephales promelas</i>	OECD 203	
	EC ₅₀	1,7 – 9 mg/L	48 h	crustacea	<i>Daphnia magna</i>	OECD 202	
	LC ₅₀	0,136 mg Zn/L		algae	<i>Selenastrum capricornutum</i>	OECD 201	
	EC10/LC10	100 µg Zn/L	180 min	bacteria	Activated sludge	OECD 209	
	EC ₅₀	0,413 mg/L	48 h	algae	<i>Ceriodaphnia acanthina</i>	OECD 202	

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12.1.2. Chronic (long-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
ammonium sulphate (7783-20-2)	EC ₁₀	5,29 mg/l	30 days	fish	<i>Lepomis macrochirus</i>	BASF test	
	EC ₁₀	3,12 mg/l	70 days	aquatic invertebrate	<i>Hyalella azteca</i>		
urea (57-13-6)	EC50	47 mg/l	192 h	algae	<i>Microcystis aeruginosa</i>		
	NOEL	4961 ppm	96 h	fish	<i>Oreochromis mossambicus</i>		
zinc oxide (1314-13-2)	NOEC	0,019 mg Zn/L	72 h	algae	<i>Selenastrum capricornutum</i>	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 follows the natural nitrification/denitrification cycle to give nitrogen or nitrogen oxides. Phosphorus is transformed into highly insoluble iron / aluminum phosphates or is incorporated into the organic matter in the soil. Potassium is mainly absorbed by clay minerals or remains in the soil. 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 NH₄⁺ ion is absorbed by soil particles. Phosphorus enters shortly into soil solution, but is soon bound to soil components and becomes immobile. The dissolved K⁺ ion in the soil solution is absorbed by clay minerals and only in light soils where these are absent can part of the potassium be leached.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

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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

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Dispose according to regulations. Do not allow product to reach drains/sewage systems. Dispose the product to an authorised collector/remover of waste/company performing waste recovery.

Packaging

Packaging is not suitable for use for other purposes and should be left to an authorized waste contractor. Deliver completely emptied containers to approved waste disposal authorities. 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

-

13.1.4. Other disposal recommendations

-

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.

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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

-

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - European 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

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LC₅₀ - Lethal Concentration to 50 % of a test population
LD₅₀ - 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

H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.



- Provided correct labelling of the product
- Compliance with the local legislation
- Provided correct classification of the product
- Provided adequate transport data

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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.

