

# SAFETY DATA SHEET according to Regulation 1907/2006

Product name: NPK 5:15:15 + 2 % Ca + 7 % S\_NPK 6:12:24 + 6 % S\_NPK 6:24:12 + 2 %  
Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...  
Creation date: 28.9.2018 · Revision: 30.3.2020 · Version: 2

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

### 1.1. Product identifier

#### Product name

**NPK 5:15:15 + 2 % Ca + 7 % S\_NPK 6:12:24 + 6 % S\_NPK 6:24:12 + 2 % Ca + 5 %  
S + 0.05 % Zn\_NPK 8:15:15 + 3 % Ca + 9 % S**



chemius.net/iSU90

#### Product code

[NPK 5:15:15 EZ.var I\_EZ.var II\_\_\_\_ NPK 6:12:24 EZ.var I do EZ.var IV NPK 6:24:12 EZ.var I do EZ.var VI\_\_\_\_ NPK 8:15:15  
EZ.var I do EZ.var V NPK 6:12:24 EP.var I do EP.var V\_\_\_\_NPK 6:24:12 EP.var I do EP.var VI NPK 8:15:15 EP.var I do EP.var  
VIII]

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

#### Relevant identified uses

MINERAL COMPLEX SOLID NPK FERTILISER WITH SECONDARY NUTRIENTS (Ca,S) AND MICRO-NUTRIENT (Zn), NPK  
FERTILISER CONTAINING SOFT GROUND ROCK PHOSPHATE.

#### 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  
Fax: +381 15 352 715

#### **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)

Eye Dam. 1; H318 Causes serious eye damage.

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## 2.2 Label elements

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



Signal word: **Danger**

H318 Causes serious eye damage.

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 national regulation.

### 2.2.2. Contains:

superphosphates, concd. (CAS: 65996-95-4, EC: 266-030-3)

superphosphates (CAS: 8011-76-5, EC: 232-379-5)

### 2.2.3. Special provisions

Special hazards are not known or expected.

## 2.3. Other hazards

No information.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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### 3.1. Substances

For mixtures see 3.2.

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## 3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
potassium chloride	7447-40-7 231-211-8 -	15-45	not classified		-
ammonium sulphate	7783-20-2 231-984-1 -	9-40	not classified		01-2119455044-46
phosphate rock and phosphorite, calcined	65996-94-3 266-029-8 -	10-37	not classified		-
ammonium dihydrogenorthophosphate	7722-76-1 231-764-5 -	3-31	not classified		01-2119488166-29
superphosphates, concd.	65996-95-4 266-030-3 -	3-22	Eye Dam. 1; H318		01-2119493057-33
superphosphates	8011-76-5 232-379-5 -	3-22	Eye Dam. 1; H318		01-2119488967-11
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate)	7446-19-7 231-793-3 030-006-00-9	<0,2	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410		01-2119474684-27

## 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. 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.

#### Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. Consult a physician immediately!

#### Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Consult a physician. 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.

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## Eye contact

Discomfort or pain, excessive blinking, lacrimation and redness, swelling of the conjunctiva.

## Ingestion

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.

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## SECTION 5. FIREFIGHTING MEASURES

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### 5.1. Extinguishing media

#### Suitable extinguishing media

Water spray.

#### Unsuitable extinguishing media

Do not use chemical agents (CCl<sub>4</sub>, CO<sub>2</sub>, 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.

Chlorine.

Hydrogen chloride (HCl).

### 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).

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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### 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. Avoid contact with skin and eyes. Avoid breathing dust.

#### 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

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## 6.3.2. For cleaning up

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

## 6.3.3. Other information

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## 6.4. Reference to other sections

See also Sections 8 and 13.

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## SECTION 7. HANDLING AND STORAGE

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### 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**

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#### 7.1.2. Advice on general occupational hygiene

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.

### 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. Do not expose to sun and temperatures exceeding 50°C. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

#### 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.

#### 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**

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#### **Industrial sector specific solutions**

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1. Control parameters

#### 8.1.1. Occupational exposure limit values

No information.

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## 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**

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Name	Type	Exposure route	Exposure frequency	Value	Remark
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 <sup>3</sup>	
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 <sup>3</sup>	
ammonium sulphate (7783-20-2)	Consumer	oral	long term (systemic effects)	6,4 mg/kg bw/day	
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 <sup>3</sup>	
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 <sup>3</sup>	
ammonium dihydrogenorthophosphate (7722-76-1)	Consumer	oral	long term (systemic effects)	2,1 mg/kg bw/day	
superphosphates, concd. (65996-95-4)	Worker	inhalation	long term (systemic effects)	2,9 mg/m <sup>3</sup>	
superphosphates, concd. (65996-95-4)	Worker	dermal	long term (systemic effects)	4,2 mg/kg bw/day	
superphosphates, concd. (65996-95-4)	Consumer	inhalation	long term (systemic effects)	0,72 mg/m <sup>3</sup>	
superphosphates, concd. (65996-95-4)	Consumer	dermal	long term (systemic effects)	2,1 mg/kg bw/day	
superphosphates, concd. (65996-95-4)	Consumer	oral	long term (systemic effects)	0,42 mg/kg bw/day	
superphosphates (8011-76-5)	Worker	dermal	long term (systemic effects)	17,4 mg/kg bw/day	
superphosphates (8011-76-5)	Worker	inhalation	long term (systemic effects)	3,1 mg/m <sup>3</sup>	
superphosphates (8011-76-5)	Consumer	dermal	long term (systemic effects)	10,4 mg/kg bw/day	
superphosphates (8011-76-5)	Consumer	inhalation	long term (systemic effects)	0,9 mg/m <sup>3</sup>	
superphosphates (8011-76-5)	Consumer	oral	long term (systemic effects)	2,1 mg/kg bw/day	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Worker	inhalation	long term (systemic effects)	1 mg/m <sup>3</sup>	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Worker	dermal	long term (systemic effects)	8,3 mg/kg bw/day	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Consumer	oral	long term (systemic effects)	0,83 mg/kg bw/day	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Consumer	inhalation	long term (systemic effects)	1,25 mg/m <sup>3</sup>	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Consumer	dermal	long term (systemic effects)	8,3 mg/kg bw/day	

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## 8.1.4. PNEC values

### For components

Name	Exposure route	Value	Remark
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)	water, intermittent release	0,53 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 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	fresh water
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)	marine water	0,17 mg/L	
superphosphates (8011-76-5)	water, intermittent release	17 mg/L	fresh water
superphosphates (8011-76-5)	water treatment plant	10 mg/L	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	fresh water	20,6 µg/l	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	fresh water sediment	117,8 mg/kg	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	marine water	6,1 µg/l	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	marine water sediment	56,5 mg/kg	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	water treatment plant	52 µg/l	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	soil	35,6 mg/kg	

## 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.

#### 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)

#### Skin protection

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

#### Respiratory protection

Not needed under normal use and adequate ventilation. In case of insufficient ventilation wear suitable respiratory protection. If concentration of airborne dust is elevated wear mask (EN 136/140) with filter P2 (EN 143).

#### Thermal hazards

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### 8.2.3. Environmental exposure controls

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

- <b>Physical state:</b>	solid; granules
- <b>Colour:</b>	white to gray, red
- <b>Odour:</b>	no odour

### Important health, safety and environmental information

- <b>pH</b>	3 – 6,5
- <b>Melting point/freezing point</b>	130 – 210 °C
- <b>Initial boiling point/boiling range</b>	No information.
- <b>Flash point</b>	No information.
- <b>Evaporation rate</b>	No information.
- <b>Flammability (solid, gas)</b>	Not flammable.
- <b>Explosion limits (vol%)</b>	No information.
- <b>Vapour pressure</b>	No information.
- <b>Vapour density</b>	No information.
- <b>Density</b>	<b>Relative density:</b> 0,8 – 1,2
- <b>Solubility</b>	<b>Water:</b> Soluble
- <b>Partition coefficient</b>	No information.
- <b>Auto-ignition temperature</b>	Not self-igniting.
- <b>Decomposition temperature</b>	No information.
- <b>Viscosity</b>	No information.
- <b>Explosive properties</b>	Product is not explosive.
- <b>Oxidising properties</b>	Not oxidising.

### 9.2. Other information

- <b>Remarks:</b>	Hygroscopic.
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## SECTION 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 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.

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## 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.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### (a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
potassium chloride (7447-40-7)	oral	LD <sub>50</sub>	rat		2100 – 3900 mg/kg bw	OECD 401	7-12 h
potassium chloride (7447-40-7)	-	LD <sub>50</sub>	mouse		620 mg/kg bw		
ammonium sulphate (7783-20-2)	oral	LD <sub>50</sub>	rat	7 days	4250 mg/kg	OECD 401	
ammonium sulphate (7783-20-2)	dermal	LD <sub>50</sub>	rat		2000 mg/kg	OECD 434	
ammonium sulphate (7783-20-2)	inhalation	LC <sub>50</sub>	rat	4 h	3,6 mg/l	OECD 433	dust/aerosol
ammonium dihydrogenorthophosphate (7722-76-1)	oral	LD <sub>50</sub>	rat		> 2000 mg/kg	OECD 425	
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	LD <sub>50</sub>	rat	24 h	> 5000 mg/kg	OECD 402	
ammonium dihydrogenorthophosphate (7722-76-1)	inhalation	LC <sub>50</sub>	rat	4 h	> 5 mg/l	OECD 403	dust/aerosol
superphosphates, concd. (65996-95-4)	oral	LD <sub>50</sub>	rat	14 days	2000 mg/kg	OECD 425	
superphosphates, concd. (65996-95-4)	dermal	LD <sub>50</sub>	rat	24 h	5000 mg/kg	OECD 402	
superphosphates, concd. (65996-95-4)	inhalation	LC <sub>50</sub>	rat	4 h	> 4,84 mg/l	OECD 403	dust/aerosol
superphosphates (8011-76-5)	oral	LD <sub>50</sub>	rat		2000 mg/kg bw	OECD 425	7-14 days
superphosphates (8011-76-5)	dermal	LD <sub>50</sub>	rat	24 h	5000 mg/kg bw	OECD 402	
superphosphates (8011-76-5)	inhalation	LC <sub>50</sub>	rat	4 h	> 5 mg/l	OECD 403	dust/aerosol
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	oral	LD <sub>50</sub>	rat	14 days	636 – 1350 mg/kg bw	OECD 401	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	dermal	LD <sub>50</sub>	rat	24 h	> 2000 mg/kg bw	OECD 402	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	inhalation	LC <sub>50</sub>	Dog		8,3 – 15,8 mg/m <sup>3</sup> air	OECD 403	

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

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## (b) Skin corrosion/irritation

Name	Species	Time	Result	Method	Remark
ammonium sulphate (7783-20-2)	rabbit		Non-irritant.		24-72 h
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit	24 h	Dermal - erythema: score 0,25 (72h)	OECD 404	
superphosphates, concd. (65996-95-4)	rabbit	24 h	Dermal - erythema: score 0,25 (72h)	OECD 404	
superphosphates (8011-76-5)	rabbit	24 h	Dermal - erythema: score 0,25 Dermal - edema: score 0,25	OECD 404	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	rabbit	72 h	Irritating.	OECD 404	

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

## (c) Serious eye damage/irritation

Name	Species	Time	Result	Method	Remark
potassium chloride (7447-40-7)	rabbit	24 h	Irritating.		
ammonium sulphate (7783-20-2)	rabbit		Mild irritating.	BASF	24, 48, 72 h
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit		Mild irritating.	OECD 405	
superphosphates, concd. (65996-95-4)	rabbit		Corrosivity Category 1 (irreversible effects on the eye)	OECD 405 B.5	48-72h; 14-21 days
superphosphates (8011-76-5)	rabbit		Corrosivity Category 1 (irreversible effects on the eye)	OECD 405 Acute Eye Irritation/Corrosion	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	rabbit		Mild irritating.	OECD 405	24, 48, 72 h

**Additional information:** Causes serious eye damage.

## (d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	Result	Method	Remark
ammonium sulphate (7783-20-2)	dermal	guinea pig	48 h	Slight sensitizer.	EPA 540/9-82-025	24-48 h; 76.5 mg
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	mouse		Non sensitising.	OECD 429; EU B.42	
superphosphates, concd. (65996-95-4)	dermal	Guinea pig (male/female)		Non sensitising.	OECD 429	
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

**Additional information:** The product is not classified as sensitising.

# SAFETY DATA SHEET according to Regulation 1907/2006

Product name: NPK 5:15:15 + 2 % Ca + 7 % S\_NPK 6:12:24 + 6 % S\_NPK 6:24:12 + 2 %

Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...

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## (e) (Germ cell) mutagenicity

Name	Type	Species	Time	Result	Method	Remark
potassium chloride (7447-40-7)	in-vitro mutagenicity	Salmonella typhimurium		Negative with metabolic activation, negative without metabolic activation.	OECD 471	100000, 333000, 1000000, 3333000, 10000000 µg/Petri dish
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
superphosphates, concd. (65996-95-4)		mouse	3 h	Negative with metabolic activation, negative without metabolic activation.	OECD 471	15 µL/mL
superphosphates, concd. (65996-95-4)		mouse	24 h	Negative with metabolic activation, negative without metabolic activation.	OECD 471	5 µL/mL
superphosphates (8011-76-5)		rat ( <i>Salmonella typhimurium</i> )		Negative with metabolic activation, negative without metabolic activation.	OECD 471	50µL; 125µL, 150µL
superphosphates (8011-76-5)		rat ( <i>Escherichia coli</i> )		Negative with metabolic activation, negative without metabolic activation.	OECD 471	50µL; 125µL, 150µL
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	in-vitro mutagenicity	Salmonella typhimurium		Negative.	OECD 471	50, 150, 500, 1500, 5000 µg/Petri dish
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	in-vivo mutagenicity	mouse		Negative.	OECD 471	86,3; 57,5; 28,8 mg/kg

## (f) Carcinogenicity

No information.

## (g) Reproductive toxicity

Name	Reproductive toxicity type	Type	Species	Time	Value	Result	Method	Remark
ammonium sulphate (7783-20-2)	Reproductive toxicity	NOAEL	rat (oral)		1500 mg/kg/day		OECD 422	
superphosphates, concd. (65996-95-4)	Reproductive toxicity	NOAEL	rat (oral)		≥ 1500 mg/kg/day	No effect	OECD 422	
superphosphates (8011-76-5)	Reproductive toxicity	NOAEL	rat (oral)		750 mg/kg/day	Teratogenicity	OECD 422	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Reproductive toxicity	NOAEL	rat		15 mg/kg bw		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.

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Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...  
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## (i) STOT-repeated exposure

Name	Exposure route	Type	Species	Time	Organ Value	Result	Method	Remark
potassium chloride (7447-40-7)	oral	NOAEL	rat		110 – 1820 mg/kg bw			24 hours per day
ammonium sulphate (7783-20-2)	inhalation	NOAEC	hamster		186,6 µg/m <sup>3</sup>		OECD 422	6h/day
ammonium sulphate (7783-20-2)	oral	NOAEL	rat (female)		256 – 284 mg/kg		OECD 453	24 hours per day
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
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	oral	NOAEL	rat	13 weeks	31,52 mg/kg bw/day		OECD 408	daily
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	oral	LOAEL	rat	13 weeks	53,8 mg/kg bw/day		OECD 408	daily
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	inhalation	NOAEC	rat (male)	5 days	2,7 mg/m <sup>3</sup> air			3 hours per 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**

# SAFETY DATA SHEET according to Regulation 1907/2006

Product name: NPK 5:15:15 + 2 % Ca + 7 % S\_NPK 6:12:24 + 6 % S\_NPK 6:24:12 + 2 %

Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...

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Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
ammonium sulphate (7783-20-2)	LC <sub>50</sub>	53 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	EC <sub>50</sub>	1605 mg/L	72 h	algae	<i>Chlorella vulgaris</i>	OECD 201	
	EC <sub>50</sub>	121,7 mg/L	48 h	crustacea	<i>Ceriodaphnia dubia</i>	OECD 202	
	EC <sub>20</sub>	1050 mg/L	30 min	bacteria	Activated sludge	OECD 209	
	EC <sub>50</sub>	1618 mg/L	30 min	bacteria	Activated sludge		
ammonium dihydrogenorthophosphate (7722-76-1)	LL <sub>50</sub>	85,9 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	EL <sub>50</sub>	1790 mg/L	72 h	daphnia	<i>Daphnia carinata</i>		
	EC <sub>50</sub>	97,1 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	
superphosphates, concd. (65996-95-4)	LC <sub>50</sub>	85,9 mg/L	4 days	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	NOEC	87,6 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	
superphosphates (8011-76-5)	LC <sub>50</sub>	85,9 mg/L	4 days	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	EL <sub>50</sub>	1790 mg/L	72 h	daphnia	<i>Daphnia carinata</i>	OECD 202	
	NOEC/NOEL	87,6 mg/L	72 h	algae	<i>Pseudokirchneriella subcapitata</i>	OECD 201	
	EC <sub>50</sub>	100 mg/L	3 h	bacteria	Activated sludge	OECD 209	
	LC <sub>50</sub>	1,625 ppm	72 h		<i>Moina micrura</i>		APHA
	LC <sub>50</sub>	2,305 ppm	72 h		<i>Cyclops viridis</i>		APHA
	LC <sub>50</sub>	3,32 ppm	96 h		<i>Branchiura sowerbyi</i>		APHA
	LC <sub>50</sub>	1,51 ppm	96 h		<i>Chironomus</i>		APHA
	LC <sub>50</sub>	1,133 ppm	96 h		<i>Dragonfly nymph</i>		APHA
	LC <sub>50</sub>	5,005 ppm	96 h		<i>Planorbis exustus</i>		APHA
	LC <sub>50</sub>	2,95 ppm	96 h		<i>Planorbis exustus</i>		APHA
	LC <sub>50</sub>	2,35 ppm	96 h		<i>Viviparus bengalensis</i>		APHA
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	LC <sub>50</sub>	142 – 2920 µg/l	96 h	fish	<i>Thymallus articus</i>	ASTM E729-88	
	LC <sub>50</sub>	1220 µg/l	48 h	crustacea	<i>Daphnia magna</i>	US EPA/600/ 4-85/013	
	EC <sub>50</sub>	860 µg/l	48 h	crustacea	<i>Daphnia magna</i>	US EPA/600/ 4-85/013	

# SAFETY DATA SHEET according to Regulation 1907/2006

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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 <sub>10</sub>	5,29 mg/l	30 days	fish	<i>Lepomis macrochirus</i>	BASF test	
	EC <sub>10</sub>	3,12 mg/l	70 days	aquatic invertebrate	<i>Hyalella azteca</i>	BASF test	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	NOEC	440 µg/L	72 days	fish	<i>Oncorhynchus mykiss</i>		
	EC <sub>10</sub>	23 µg/L	3 days	invertebrate	<i>Paracentrotus lividus</i>	EPA 600/R-95/136	
	NOEC	313 µg/L	5 days	algae	<i>Ulva pertusa</i>		
	NOEC	60 µg/L	3 days	algae	<i>Cladophora glomerata</i>		growth rate

## 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. 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 NH<sub>4</sub><sup>+</sup> 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<sup>+</sup> 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

No evaluation.

## SAFETY DATA SHEET according to Regulation 1907/2006

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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 to reach ground water, water courses or sewage system.

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## SECTION 13. DISPOSAL CONSIDERATIONS

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### 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.

##### 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.

##### 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

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### 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

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### 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.

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## SECTION 16. OTHER INFORMATION

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### Indication of changes

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### 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

# SAFETY DATA SHEET according to Regulation 1907/2006

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Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...

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LC<sub>50</sub> - Lethal Concentration to 50 % of a test population  
LD<sub>50</sub> - 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

H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
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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# **SAFETY DATA SHEET** according to Regulation 1907/2006

Product name: **NPK 5:15:15 + 2 % Ca + 7 % S\_NPK 6:12:24 + 6 % S\_NPK 6:24:12 + 2 % Ca + 5 % S + 0.05 % Zn\_NPK 8:15:15 + 3...**

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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.

