



Passion Ag Global Ltd
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SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **NPK 12:11:18 + 3 % MgO + 11 % S + 0.01 % B + 0.02 % Zn + TE _ NPK**

12:11:18 + 3 % MgO + 14 % S + 0.01 % B...

Creation date: 19.7.2018 · Revision: 11.3.2019 · Version: 1

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

1.1. Product identifier

Product name

**NPK 12:11:18 + 3 % MgO + 11 % S + 0.01 % B + 0.02 % Zn + TE _ NPK 12:11:18
+ 3 % MgO + 14 % S + 0.01 % B + 0.02 % Zn + TE**

Product code

[ES NPK 12:11:18 (MOP) EZ.var I _ ES NPK 12:11:18 (SOP) EZ.var II]



chemius.net/SFu95

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

Relevant identified uses

MINERAL COMPLEX SOLID NPK FERTILISERS WITH SECONDARY NUTRIENTS AND MICRO-NUTRIENTS;

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Passion Ag Global Ltd (details as above)

1.4. Emergency telephone number

+44 (0)1892 251021 Office Hours 9am-5pm, Mon-Fri

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 chemical 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

The substances in the mixture are not classified as persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

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)	REACH Registration No.
ammonium sulphate	7783-20-2 231-984-1 -	33-48	not classified	01-2119455044-46-0163
ammonium dihydrogenorthophosphate	7722-76-1 231-764-5 -	21-38	not classified	01-2119488166-29-0077
potassium chloride	7447-40-7 231-211-8 -	5-35	not classified	-
potassium sulfate	7778-80-5 231-915-5 -	24-34	not classified	01-2119489441-34-0071
magnesium oxide	1309-48-4 215-171-9 -	3,5-5,5	not classified	-
Colemanite	12291-65-5 602-907-2 -	<0,4	not classified	-
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate)	7446-19-7 231-793-3 030-006-00-9	≤0,1	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	01-2119474684-27-0000

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

When in doubt or if you feel 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 symptoms develop and persist, seek medical attention.

Following skin contact

Take off all contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do not induce vomiting! Show the physician the Safety Data Sheet or label. In case of doubt or if feeling unwell seek medical help.

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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

Contact with skin may cause irritation (redness, itching).
Powder can cause localised skin irritation in folds of the skin or under tight clothing.

Eye contact

Contact with eyes can cause irritation (redness, tearing, pain).
Dust irritates the eyes (by mechanical means).

Ingestion

May cause abdominal discomfort.
May cause nausea/vomiting and diarrhea.

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

Treat symptomatically. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 24-48 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 (NH₃).
Chlorine.
Hydrogen chloride (HCl).

5.3. Advice for firefighters

Protective actions

Extinguish the fire from where the wind blows. Keep adjacent containers cool by spraying them with water. Prevent spillage from the containers and place them in a safe place, if this does not endanger your health. In case of fire or heating do not breathe fumes/vapours.

Special protective equipment for fire-fighters

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

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. Avoid dust generation. No action shall be taken involving any personal risk or without suitable training. Avoid breathing dust. Avoid contact with skin, eyes and clothing.

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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. Do not allow product to reach water/drains/sewage systems or permeable soil. In case of release into the environment, inform the relevant 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. Dust and air can form explosive mixtures.

Measures to prevent aerosol and dust generation

Prevent dusting. Ensure adequate ventilation.

Measures to protect the environment

Avoid release to the environment.

7.1.2. Advice on general occupational hygiene

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

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. Keep away from moisture and water. Protect from direct sunlight. Keep away from food, drink and animal feeding stuffs. Keep unauthorized personnel away.

7.2.2. Packaging materials

Store only in original container. PE, PP/PE

7.2.3. Requirements for storage rooms and vessels

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

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.

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Industrial sector specific solutions

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		
Magnesium oxide (as Mg) inhalable dust (1309-48-4)	-	10	-	-		
Magnesium oxide (as Mg) fume and respirable dust (1309-48-4)	-	4	-	-		

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Title Identifier: 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.

8.1.3. DNEL/DMEL values

For components

Name	Type	Exposure route	exp. frequency	Value	Remark
ammonium sulphate (7783-20-2)	Worker	dermal	long term (systemic effects)	42,667 mg/kg	
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	
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	
ammonium dihydrogenorthophosphate (7722-76-1)	Worker	dermal	long term (systemic effects)	34,7 mg/kg	
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	
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	
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	
potassium chloride (7447-40-7)	Worker	dermal	short term (systemic effects)	910 mg/kg bw/day	

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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	short term (systemic effects)	455 mg/kg bw/day
potassium sulfate (7778-80-5)	Worker	inhalation	long term (systemic effects)	37,6 mg/m ³
potassium sulfate (7778-80-5)	Worker	dermal	long term (systemic effects)	21,3 mg/kg bw/day
potassium sulfate (7778-80-5)	Consumer	inhalation	long term (systemic effects)	11,1 mg/kg
potassium sulfate (7778-80-5)	Consumer	dermal	long term (systemic effects)	12,8 mg/kg bw/day
potassium sulfate (7778-80-5)	Consumer	oral	long term (systemic effects)	128 mg/kg bw/day
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Worker	inhalation	long term (systemic effects)	1 mg/m ³
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 ³
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	
ammonium sulphate (7783-20-2)	soil	62,6 mg/kg	
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	
ammonium dihydrogenorthophosphate (7722-76-1)	water treatment plant	10 mg/L	
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	
potassium sulfate (7778-80-5)	fresh water	0,68 mg/L	
potassium sulfate (7778-80-5)	water, intermittent release	6,8 mg/L	fresh water
potassium sulfate (7778-80-5)	marine water	0,068 mg/L	
potassium sulfate (7778-80-5)	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	dry weight
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	dry weight
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	water treatment plant	100 µg/l	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	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. Do not breathe dust. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes.

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. Keep away from food, drink and animal feedingstuffs.

8.2.2. Personal protective equipment

Eye and face protection

No requirements under normal use conditions. At strong dust raising wear tightly sealed safety glasses (EN 166).

Hand protection

No requirements under normal use conditions. In case of prolonged exposure, wear protective gloves (EN 374). (material: leather, rubber)

Skin protection

No requirements under normal use conditions. With excessive exposure wear protective working clothing (overalls and boots). Cotton protective clothing (EN ISO 13688) and shoes that cover the entire foot (EN ISO 20345).

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Respiratory protection

Not needed under normal use and adequate ventilation. In case of high dust concentrations use a dust protection mask (EN 136) 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:	blue
- Odour:	odourless

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%)	Not flammable
- Vapour pressure	No information.
- Vapour density	No information.
- Density	Bulk density: 0,9 – 1,05 g/cm ³
- Solubility	Water: disperses
- 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 normal conditions.

10.2. Chemical stability

Product is stable under normal conditions according of handling and storage.

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10.3. Possibility of hazardous reactions

Reacts with strong alkalis releasing ammonia. Dust may form explosive mixtures with air.

10.4. Conditions to avoid

Strong heating. 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. Hazardous combustion products, see Section 5 of the safety data sheet.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
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 (dusts/mists)	LC ₅₀	rat	4 h	3,6 mg/l	OECD 433	
ammonium dihydrogenorthophosphate (7722-76-1)	oral	LD ₅₀	rat	14 days	> 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 (dusts/mists)	LC ₅₀	rat	4 h	> 5 mg/l	OECD 403	
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	rat		620 mg/kg bw		experimental value
potassium sulfate (7778-80-5)	oral	LD ₅₀	rat		> 2000 mg/kg bw	OECD 425	
potassium sulfate (7778-80-5)	dermal	LD ₅₀	rat	24 h	> 2000 mg/kg bw	OECD 402	
potassium sulfate (7778-80-5)	inhalation (dusts/mists)	LC ₅₀	rat		> 1,2 mg/l	OECD 433	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	oral	LD ₅₀	rat (male)	14 days	636 – 1350 mg/kg bw	OECD 401	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	dermal	LD ₅₀	rat	24 h	> 2000 mg/kg bw	OECD 402	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	inhalation	LC ₅₀	Dog		8,3 – 15,8 mg/m ³ air	OECD 403	7.5 - 240 min

Additional information: 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.		
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit	24 h	Dermal - erythema: score 0,25 (72h)	OECD 404	
potassium sulfate (7778-80-5)			Non-irritant.	EU Method B.46	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	rabbit	21 days	Irritating.	OECD 404	1, 24, 48, 72 h

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

(c) Serious eye damage/irritation

Name	Species	Time	result	Method	Remark
ammonium sulphate (7783-20-2)	rabbit		Mild irritating.	BASF	24, 48, 72 h
ammonium dihydrogenorthophosphate (7722-76-1)	rabbit		Can cause mild irritation.	OECD 405	
potassium chloride (7447-40-7)	rabbit	24 h	Irritating to eyes.		experimental value
potassium sulfate (7778-80-5)	rabbit		No irritant effect.	OECD 405	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	rabbit		Severe irritation.	OECD 405	24, 48, 72 h

(d) Respiratory or skin sensitisation

Name	Exposure route	Species	Time	result	Method	Remark
ammonium sulphate (7783-20-2)	dermal	Guinea pig	48 h	The occurrence of erythema and mild edema.	EPA 540/9-82-025	24-48 h; 76.5 mg
ammonium dihydrogenorthophosphate (7722-76-1)	dermal	mouse		Non sensitizing.	OECD 429; EU B.42	
potassium sulfate (7778-80-5)	dermal	mouse		Non sensitizing.	OECD 429	

Additional information: Not classified as sensitizing.

(e) (Germ cell) mutagenicity

Name	Type	Species	Time	result	Method	Remark
ammonium sulphate (7783-20-2)	in-vitro Mutagenicity	rat (livers)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	Salmonella typhimurium
ammonium sulphate (7783-20-2)	in-vivo Mutagenicity	mouse (male)		Negative with metabolic activation, negative without metabolic activation.	OECD 471	Salmonella typhimurium
potassium chloride (7447-40-7)	in-vivo Mutagenicity	Bacteria		Negative with metabolic activation, negative without metabolic activation.	OECD 471	Salmonella typhimurium
potassium sulfate (7778-80-5)	in-vitro Mutagenicity	<i>Escherichia coli</i>		Negative		
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	in-vitro Mutagenicity	Salmonella typhimurium		Negative with metabolic activation, negative without metabolic activation.	OECD 471	Bacterial Reverse Mutation Test
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	in-vivo Mutagenicity	mouse		Negative with metabolic activation, negative without metabolic activation.	OECD 471	

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(f) Carcinogenicity

Name	Exposure route	Type Species	Time Value	result	Method	Remark
potassium sulfate (7778-80-5)				Animal testing did not show any carcinogenic effects.	OECD 453	

(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	
potassium sulfate (7778-80-5)	Reproductive toxicity	NOAEL	rat	≥ 1500 mg/kg	Animal testing did not show any effects on fertility.	OECD 422	
potassium sulfate (7778-80-5)							
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	Reproductive toxicity	NOAEL	rat (F1)	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

SAFETY DATA SHEET according to Regulation 1907/2006

Product name: **NPK 12:11:18 + 3 % MgO + 11 % S + 0.01 % B + 0.02 % Zn + TE _ NPK**

12:11:18 + 3 % MgO + 14 % S + 0.01 % B...

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Name	Exposure route	Type	Species	Time	organ	Value	result	Method	Remark
ammonium sulphate (7783-20-2)	inhalation	LOEC	Guinea pig (male)			0,187 mg/m ³ air		OECD 422	6h/day
ammonium sulphate (7783-20-2)	oral	NOAEL	rat (male)			256 – 284 mg/kg	Weight increase of kidneys and spleen.	OECD 453	24 hours per day
ammonium dihydrogenorthophosphate (7722-76-1)	oral	NOAEL	rat			250 mg/kg		OECD 422	
potassium chloride (7447-40-7)	oral	NOAEL	rat (male)			1820 mg/kg bw/day			24 hours per day
potassium chloride (7447-40-7)	oral	LOAEL	rat (male)			110 mg/kg bw/day			24 hours per day
potassium sulfate (7778-80-5)	oral	NOAEL	rat			256 mg/kg	Health injuries are not expected under normal use.	OECD 453	
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	changes in haematological parameters, pancreatic cell necrosis; no effects were seen at LOAEL in reproductive organs	OECD 408	daily
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	inhalation	NOAEC	rat (male)	5 days		2,7 mg/m ³ air			3 hours per day

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

(i) 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 sulphate (7783-20-2)	LC ₅₀	53 mg/L	96 h	fish	<i>Oncorhynchus mykiss</i>	OECD 203	
	EC ₅₀	1605 mg/L	5 days	algae	<i>Chlorella vulgaris</i>	OECD 201	
	EC ₂₀	1050 mg/L	30 min	Microorganisms	Activated sludge		respiration inhibition
	EC ₅₀	1618 mg/L	30 min	Microorganisms	Activated sludge		respiration inhibition
	EC ₅₀	121,7 mg/L	48 h	crab	<i>Ceriodaphnia acanthina</i>	OECD 202	
ammonium dihydrogenorthophosphate (7722-76-1)	LL 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	
potassium sulfate (7778-80-5)	LC ₅₀	680 mg/L	96 h	fish	<i>Pimephales promelas</i>	EPA 600/4-90/027	
	LC ₅₀	720 mg/L	48 h	crustacea	<i>Daphnia magna</i>	EPA 600/4-90/027	
Zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate) (7446-19-7)	LC ₅₀	142 – 2920 µg/l	96 h	fish	<i>Thymallus articus</i>	ASTM E729-88	
	LC ₅₀	1220 µg/l	48 h	crustacea	<i>Daphnia magna</i>	EPA 600/4-90/027	
	EC ₅₀	860 µg/l	48 h	crustaceans	<i>Daphnia magna</i>	EPA 600/4-90/027	

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	10 weeks	crustacea	<i>Daphnia magna</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 ₁₀	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

SAFETY DATA SHEET according to Regulation 1907/2006

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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 adsorbed on clay minerals or remains in solution. 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. 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.

12.6. Other adverse effects

Prevent spreading in groundwater, watercourses, water supply or sewage system. No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation, endocrine disruption, global warming) are expected.

12.7. Additional information

For product

Product is not classified as dangerous for environment.

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 of in accordance with applicable waste disposal regulation. Ensure that waste is in compliance with local and national requirements. Dispose the product to an authorized collector/remover of waste/company performing waste recovery.

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Packaging

Dispose of in accordance with applicable waste disposal regulation. 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

-

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

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.

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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
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

SAFETY DATA SHEET according to Regulation 1907/2006

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(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

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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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.