SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

NSM 15-10-20 (+3,7+0,2 Mo)

Version	Revision Date:	SDS Number:	Date of last issue: 26.05.2026
2.1	30.09.2026	M0739	Date of first issue: 12.03.2026

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : NSM 15-10-20 (+3,7+0,2 Mo)

Unique Formula Identifier (UFI) : DPR5-F04H-7004-DN0W

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

Use of the Substance/Mixture : Fertiliser

1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH
Krögerweg 10
D-48155 Münster

Telephone : +49 (0) 251 29 79 81 – 000

Telefax : +49 (0) 251 29 79 81 - 111

E-mail address of person responsible for the SDS : productsafety@compo-expert.com

1.4 Emergency telephone

GBK GmbH - Global Regulatory Compliance - 24h
Telephone:+49 (0) 6132 - 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Oxidizing solids, Category 2	H272: May intensify fire; oxidizer.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word	:	Danger	
Hazard Statements	:	H272	May intensify fire; oxidizer.
		H412	Harmful to aquatic life with long lasting effects.
Precautionary Statements	:	**Prevention:**	
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P220	Keep away from clothing and other combustible materials.
		P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
		Disposal:	
		P501	Dispose of contents/ container to an approved waste disposal plant.
Further information	:	German "Hazardous Substances" legislation (Gefahrstoffverordnung) appendix I, No. 5 (Ammonium Nitrate group B I)	

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Inorganic fertiliser

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27-0050	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 10 - < 20
potassium nitrate	7757-79-1	Ox. Sol. 3; H272	>= 45 - < 60

	231-818-8 01-2119488224-35-0017		
copper sulphate pentahydrate	7758-99-8 231-847-6 029-023-00-4 01-2119520566-40-XXXX	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: 481 mg/kg 482 mg/kg	>= 0,25 - < 1
boric acid	10043-35-3 233-139-2 005-007-00-2 01-2119486683-25-XXXX	Repr. 1B; H360FD	>= 0,1 - < 0,3
Zinc sulphate heptahydrate	7446-20-0 231-793-3 01-2119474684-27-XXXX	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: 1.710 mg/kg	>= 0,1 - < 0,25

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

If inhaled : If breathed in, move person into fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water.
Take off all contaminated clothing immediately.
If symptoms persist, call a physician.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Ingestion may provoke the following symptoms:
Methaemoglobinemia

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water
Dry chemical
Water mist
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing : High volume water jet

media	Carbon dioxide (CO2) Foam Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting	:	Thermal decomposition can lead to release of irritating gases and vapours. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Nitrogen oxides (NOx) Carbon oxides

5.3 Advice for firefighters

Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product itself does not burn.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before re-use. Avoid breathing dust. For personal protection see section 8. For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Pick up and transfer to properly labelled containers.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
Wear personal protective equipment.
Keep away from combustible material.
Keep away from heat and sources of ignition.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : The product is not flammable.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Wash hands before eating, drinking, or smoking. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Keep away from sources of ignition - No smoking. Keep away from direct sunlight. Protect from moisture.

Advice on common storage : Keep away from combustible materials.
Keep away from strong acids.
Keep away from strong bases.
Keep away from food, drink and animal feedingstuffs.

Storage class (TRGS 510) : 5.1C

Further information on storage stability : Protect from frost, heat and sunlight.

7.3 Specific end use(s)

Specific use(s) : Not relevant

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
copper sulphate pentahydrate	7758-99-8	MAK (measured as the alveolate fraction)	0,01 mg/m3	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the			

	MAK value or the BAT value is observed			
boric acid	10043-35-3	MAK (inhalable fraction)	10 mg/m3	DE DFG MAK
	Further information: According to currently available information damage to the embryo or foetus cannot be excluded after exposure to concentrations at the level of the MAK and BAT values			
		AGW (Inhalable fraction)	0,5 mg/m3 (Borate)	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
Zinc sulphate hep-tahydrate	7446-20-0	MAK (measured as the alveolate fraction)	0,1 mg/m3	DE DFG MAK
	Further information: Zinc chloride: peak limit I(1), Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
		MAK (inhalable fraction)	2 mg/m3	DE DFG MAK
	Further information: Zinc chloride: peak limit I(1), Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Routes of exposure	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Long-term systemic effects	36 mg/m3
	Workers	Skin contact	Long-term systemic effects	5,12 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	8,9 mg/m3
	Consumers	Skin contact, Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
ammonium sulphate	Workers	Skin contact	Long-term systemic effects	42,667 mg/kg
	Workers	Inhalation	Long-term systemic effects	11,167 mg/m3
	Consumer use	Oral	Long-term systemic effects	6,4 mg/kg
	Consumer use	Skin contact	Long-term systemic effects	12,8 mg/kg
	Consumer use	Inhalation	Long-term systemic effects	1,667 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
ammonium nitrate	Sewage treatment plant	16,9 mg/l
	Fresh water	16 mg/l
	Marine water	15,9 mg/l
	Fresh water sediment	77,7 mg/kg dry

		weight (d.w.)
	Marine sediment	77,2 mg/kg dry weight (d.w.)
	Air	
	Remarks:This information is not available.	
	Soil	
	Remarks:This information is not available.	
ammonium sulphate	Fresh water	0,312 mg/l
	Marine water	0,0312 mg/l
	Intermittent use/release	0,53 mg/l
	Soil	62,6 mg/kg
		16,12 mg/l
	Fresh water	0,063 mg/kg

8.2 Exposure controls

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection : Tightly fitting safety goggles

Hand protection
- Material : Gloves
- Guideline : Equipment should conform to EN 374

Remarks : As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use.

Skin and body protection : Long sleeved clothing

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Equipment should conform to EN 14387

Filter type : Filter type P

Protective measures : Handle in accordance with good industrial hygiene and safety practice.
Wash contaminated clothing before re-use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : solid

Color : grey

Odor : none

Melting point/range	:	not determined
Boiling point/boiling range	:	not determined
Flammability	:	Will not burn
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Flash point	:	Not applicable
Autoignition temperature	:	does not ignite
Decomposition temperature	:	> 130 °C To avoid thermal decomposition, do not overheat.
pH	:	ca. 3,95 (20 °C) Concentration: 100 g/l
Solubility(ies) Water solubility	: :	 soluble
Partition coefficient: n-octanol/water	:	Not applicable
Density	:	not determined
Bulk density	:	ca. 1.120 kg/m3

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	The substance or mixture is classified as oxidizing with the category 2.

Self-ignition : not auto-flammable

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : None reasonably foreseeable.
Heating can release hazardous gases.

10.4 Conditions to avoid

Conditions to avoid : Hot surface(s)
Direct sources of heat.

10.5 Incompatible materials

Materials to avoid : Strong bases
Organic materials
Strong acids
Powdered metals

10.6 Hazardous decomposition products

Hazardous decomposition products : Sulphur oxides
Oxides of phosphorus
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

Components:

ammonium nitrate:

Acute oral toxicity : LD50 (Rat): = 2.950 mg/kg bw
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhala-

tion toxicity
Remarks: Data waiving: Study scientifically not necessary.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

potassium nitrate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 425
GLP: yes
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : (Rat): > 0,527 mg/l
Exposure time: 4,0 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: The value corresponds to the highest concentration tested.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

copper sulphate pentahydrate:

Acute oral toxicity : Acute toxicity estimate: 481 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

LD50 (Rat): 482 mg/kg
Assessment: Harmful if swallowed.

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

boric acid:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
Assessment: The substance or mixture has no acute oral tox-

icity

Acute inhalation toxicity : LC50 (Rat): > 2,12 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: US EPA Test Guideline FIFRA
Assessment: The substance or mixture has no acute dermal toxicity

Zinc sulphate heptahydrate:

Acute oral toxicity : LD50 (Rat): 1.710 mg/kg
Assessment: Harmful if swallowed.
Remarks: anhydrous substance

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

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

Components:

ammonium nitrate:

Species : Rabbit
Exposure time : 4 h
Assessment : No skin irritation
Method : OECD Test Guideline 404

potassium nitrate:

Exposure time : 15 min
Assessment : No skin irritation
Method : OECD Test Guideline 439
GLP : yes

copper sulphate pentahydrate:

Assessment : No skin irritation

boric acid:

Species : Rabbit
Exposure time : 24 h

Assessment : No skin irritation
Method : US EPA Test Guideline FIFRA

Zinc sulphate heptahydrate:
Assessment : No skin irritation

Serious eye damage/eye irritation

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

Product:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation
Remarks : Based on data from similar materials

Components:

ammonium nitrate:

Species : Rabbit
Exposure time : 24 h
Assessment : Irritating to eyes.
Method : OECD Test Guideline 405

potassium nitrate:

Exposure time : 240 min
Assessment : No eye irritation
Method : OECD Test Guideline 437
GLP : yes

copper sulphate pentahydrate:

Assessment : Risk of serious damage to eyes.

boric acid:

Species : Rabbit
Exposure time : 24 h
Assessment : No eye irritation
Method : OECD Test Guideline 405
GLP : yes

Zinc sulphate heptahydrate:

Assessment : Risk of serious damage to eyes.

Respiratory or skin sensitization

Skin sensitization

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

Respiratory sensitization

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

Components:

ammonium nitrate:

Species	:	Mouse
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 429
Remarks	:	The product was not tested. The statement was derived from products of similar structure and composition.
Assessment	:	Does not cause respiratory sensitisation.

potassium nitrate:

Assessment	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.

copper sulphate pentahydrate:

Assessment	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.

boric acid:

Assessment	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.

Zinc sulphate heptahydrate:

Assessment	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.

Germ cell mutagenicity

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

Components:

ammonium nitrate:

Genotoxicity in vitro	:	Method: OECD Test Guideline 471 Result: negative
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

potassium nitrate:

Germ cell mutagenicity- As-	:	Weight of evidence does not support classification as a germ

sessment | cell mutagen.

copper sulphate pentahydrate:

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

boric acid:

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Zinc sulphate heptahydrate:

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified due to lack of data.

Components:

ammonium nitrate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

potassium nitrate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

copper sulphate pentahydrate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

boric acid:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Zinc sulphate heptahydrate:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

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

Components:

ammonium nitrate:

Effects on fetal development	:	Teratogenicity: NOAEL: 920 mg/kg body weight Developmental Toxicity: NOAEL: 920 mg/kg body weight Result: No adverse effects Remarks: Based on data from similar materials
Reproductive toxicity - Assessment	:	No toxicity to reproduction
		No effects on or via lactation

potassium nitrate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction
		No effects on or via lactation

copper sulphate pentahydrate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction
		No effects on or via lactation

boric acid:

Effects on fertility	:	Fertility: NOAEL: 100 mg B/kg bw/day Remarks: Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments
Effects on fetal development	:	Developmental Toxicity: NOAEL: 12,9 mg B/kg bw/day
Reproductive toxicity - Assessment	:	Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments
		No effects on or via lactation

Zinc sulphate heptahydrate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction
		No effects on or via lactation

STOT-single exposure

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

Components:

ammonium nitrate:

Assessment	:	The substance or mixture is not classified as specific target

organ toxicant, single exposure.

potassium nitrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

copper sulphate pentahydrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

boric acid:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Zinc sulphate heptahydrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

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

Components:

ammonium nitrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

potassium nitrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

copper sulphate pentahydrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

boric acid:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Zinc sulphate heptahydrate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

ammonium nitrate:

Species	:	Rat
NOAEL	:	> 1.500 mg/kg
Application Route	:	Oral
Exposure time	:	28 d

Species	:	Rat
NOAEL	:	= 256 mg/kg
Application Route	:	Oral
Exposure time	:	52 w
Method	:	OECD Test Guideline 453

Species	:	Rat
NOAEL	:	>= 185 mg/kg
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	14 d
Method	:	OECD Test Guideline 412

Aspiration hazard

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

Components:

ammonium nitrate:

No aspiration toxicity classification

potassium nitrate:

No aspiration toxicity classification

copper sulphate pentahydrate:

No aspiration toxicity classification

boric acid:

No aspiration toxicity classification

Zinc sulphate heptahydrate:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	:	The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Components:

ammonium nitrate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 100 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia sp. (Water Flea)): = 340 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 1.048 mg/l Exposure time: 72 h GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): 1.000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

potassium nitrate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 447 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Ceriodaphnia sp. (Water Flea)): = 340 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 1.048 mg/l Exposure time: 72 h GLP: yes

copper sulphate pentahydrate:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 38,4 - 256,2

		g/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 33,8 - 792 g/l Exposure time: 48 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC: 66 g/l Exposure time: 14 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	21,5 - 181 g/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	1

boric acid:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 79,7 mg B/kg
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 113 mg B/kg Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): 52,4 mg B/kg Exposure time: 74,5 h Method: OECD Test Guideline 201 GLP: yes Remarks: Boron
Toxicity to fish (Chronic toxicity)	:	NOEC: 5.6 mg B/kg Exposure time: 34 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10: 17.5 mg B/kg Exposure time: 28 d Species: Americamysis bahia (Opossum Shrimp) GLP: yes

Zinc sulphate heptahydrate:

Toxicity to fish	:	LC50 : 315 µg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic tox-	:	NOEC: 1.480 µg/l

icity)		Exposure time: 30 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 14 - 718 µg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	1

12.2 Persistence and degradability

Components:

ammonium nitrate:

Biodegradability	:	Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

ammonium nitrate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely. Data waiving: Study scientifically not necessary.
Partition coefficient: n-octanol/water	:	log Pow: -3,1

potassium nitrate:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely. Data waiving: Study scientifically not necessary.
Partition coefficient: n-octanol/water	:	Remarks: No data available

copper sulphate pentahydrate:

Partition coefficient: n-octanol/water	:	Remarks: Not applicable

boric acid:

Bioaccumulation	:	Remarks: Data waiving: Study scientifically not necessary.
Partition coefficient: n-octanol/water	:	log Pow: -1,09 (22 °C) Method: OECD Test Guideline 107 GLP: yes

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

ammonium nitrate:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).

potassium nitrate:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).

boric acid:

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).
Remarks: Not applicable

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not flush into surface water or sanitary sewer system.
Dispose of in accordance with local regulations.
Waste codes should be assigned by the user based on the application for which the product was used.

Contaminated packaging	:	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1477
ADR	:	UN 1477
RID	:	UN 1477
IMDG	:	UN 1477
IATA	:	UN 1477

14.2 UN proper shipping name

ADN	:	NITRATES, INORGANIC, N.O.S.
ADR	:	NITRATES, INORGANIC, N.O.S.
RID	:	NITRATES, INORGANIC, N.O.S.
IMDG	:	NITRATES, INORGANIC, N.O.S.
IATA	:	Nitrates, inorganic, n.o.s.

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	5.1	
ADR	:	5.1	
RID	:	5.1	
IMDG	:	5.1	
IATA	:	5.1	

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	O2
Hazard Identification Number	:	50
Labels	:	5.1

ADR

Packing group	:	II
Classification Code	:	O2
Hazard Identification Number	:	50

Labels : 5.1
Tunnel restriction code : (E)

RID
Packing group : II
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1

IMDG
Packing group : II
Labels : 5.1
EmS Code : F-A, S-Q
Remarks : Ammonium compounds

IATA (Cargo)
Packing instruction (cargo aircraft) : 562
Packing instruction (LQ) : Y544
Packing group : II
Labels : Oxidizer

IATA (Passenger)
Packing instruction (passenger aircraft) : 558
Packing instruction (LQ) : Y544
Packing group : II
Labels : Oxidizer

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Regulatory basis : IMSBC Code
Remarks : Product is not allowed to be transported in bulk.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : boric acid

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

potassium nitrate (ANNEX II)
ammonium nitrate (ANNEX I)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P8	OXIDIZING LIQUIDS AND SOLIDS

Water hazard class (Germany) : WGK 3 highly hazardous to water
Classification according to AwSV, Annex 1 (5.2)

Other regulations:

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

15.2 Chemical Safety Assessment

Not relevant

SECTION 16: Other information

Full text of H-Statements

H272	:	May intensify fire; oxidizer.
H302	:	Harmful if swallowed.
H318	:	Causes serious eye damage.

H319	:	Causes serious eye irritation.
H360FD	:	May damage fertility. May damage the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Ox. Sol.	:	Oxidizing solids
Repr.	:	Reproductive toxicity
DE DFG MAK	:	Germany. MAK BAT Annex IIa
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
DE DFG MAK / MAK	:	MAK value
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; BGW - Biological Limit Values; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LSPN - List of Hazardous Notified Substances (Chile); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Ox. Sol. 2	H272	Based on product data or assessment
Aquatic Chronic 3	H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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