

## Hakaphos green 20-5-10 (+2)

Version: 2.4

Revision Date:  
15.02.2018

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

#### 1.1 Product identifier

Trade name : Hakaphos green 20-5-10 (+2)

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

Use of the Sub-  
stance/Mixture : Fertilizer

#### 1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH  
Kroegerweg 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 : info@compo-expert.com

#### 1.4 Emergency telephone number

Quality / Safety / Environment  
Telephone:+49 (0) 2151 - 579 - 0

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Further information : German "Hazardous Substances" legislation ( Gefahrstoffverordnung) appendix I, No. 5 (Ammonium Nitrate group C III)

#### 2.3 Other hazards

According to our experience and to the information provided to us, the product does not have any harmful effects if it is used and handled as specified.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

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Chemical nature : Mixture of nutrient salts based on various inorganic salts.

### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27-XXXX	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 10 - < 45
potassium nitrate	7757-79-1 231-818-8 01-2119488224-35-XXXX	Ox. Sol. 3; H272	>= 10 - < 20

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- If inhaled : Move to fresh air.  
Obtain medical attention.  
If unconscious place in recovery position and seek medical advice.  
In case of lung irritation, first treatment with dexametason aerosol (spray).
- In case of skin contact : Wash off with soap and water.
- In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.

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

- Symptoms : Ingestion may provoke the following symptoms:  
Methaemoglobinemia
- Risks : Later control for pneumonia and lung oedema.

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

- Treatment : Treat symptomatically.  
There is no specific antidote available.

## SECTION 5: Firefighting measures

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### 5.1 Extinguishing media

- Suitable extinguishing media : Water
- Unsuitable extinguishing media : Foam  
Dry chemical  
Carbon dioxide (CO<sub>2</sub>)  
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.  
Nitrogen oxides (NO<sub>x</sub>)  
ammonia

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Keep away from children.

### 6.2 Environmental precautions

- Environmental precautions : Do not empty into drains.  
Retain and dispose of contaminated wash water.

### 6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Use mechanical handling equipment.

### 6.4 Reference to other sections

- For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : Keep away from direct sunlight.  
Keep away from heat.  
Protect from contamination.  
Protect from moisture.
- Advice on protection against fire and explosion : The product is not flammable. Keep away from heat and sources of ignition. Keep away from combustible materials.

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Hygiene measures : Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. When stored loose do not mix with other fertilizers. Protect from moisture.

Advice on common storage : Keep away from strong acids.  
Keep away from strong bases.  
Keep away from combustible materials.

Storage class (TRGS 510) : 5.1C, Ammonium nitrate and ammonium nitrate containing preparations

Dampness : Keep in a dry place.

### 7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

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

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Specific effects	36 mg/m <sup>3</sup>
Remarks:	Exposure time: 1 d			
	Workers	Skin contact	Specific effects	5,12 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Specific effects	2,56 mg/kg bw/day
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Specific effects	8,9 mg/m <sup>3</sup>
Remarks:	Exposure time: 1 d			
potassium nitrate	Workers	Inhalation	Systemic effects	36,7 mg/m <sup>3</sup>
	Workers	Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			

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	Consumers	Skin contact	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Systemic effects	10,9 mg/m <sup>3</sup>

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

Substance name	Environmental Compartment	Value
ammonium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
potassium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
	Sewage treatment plant	18 mg/l

## 8.2 Exposure controls

### Personal protective equipment

- Eye protection : In case of dust formation:  
Safety glasses
- Hand protection  
Material : Gloves
- Skin and body protection : No special protective equipment required.
- Respiratory protection : Breathing apparatus only if aerosol or dust is formed.  
Respirator with a particle filter (EN 143)  
P1 filter

### Environmental exposure controls

- General advice : Do not empty into drains.  
Retain and dispose of contaminated wash water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : solid
- Colour : various
- Odour : odourless
- Odour Threshold : No data available
- pH : ca. 5, Concentration: 100 g/l (20 °C)

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Melting point/range	: No data available
Boiling point/boiling range	: Not applicable
Flash point	: Not relevant
Evaporation rate	: Not applicable
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit	: Not explosive
Lower explosion limit	: Not explosive
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: Not applicable
Bulk density	: ca. 1.150 kg/m <sup>3</sup>
Solubility(ies)	
Water solubility	: soluble
Partition coefficient: n-octanol/water	: Not applicable
Decomposition temperature	: > 130 °C To avoid thermal decomposition, do not overheat.
Viscosity	
Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not considered an oxidizing substance

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.  
Decomposes on heating.

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### 10.3 Possibility of hazardous reactions

Hazardous reactions : Evolution of ammonia under influence of alkalies.

### 10.4 Conditions to avoid

Conditions to avoid : Keep away from heat and sources of ignition.

### 10.5 Incompatible materials

Materials to avoid : Sulphur, chlorites, chloride, chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NOx)  
ammonia

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

##### Components:

##### **ammonium nitrate:**

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l  
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 402

##### **potassium nitrate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,527 mg/l

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

#### Skin corrosion/irritation

##### Product:

Species: Rabbit

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Method: OECD Test Guideline 404  
Result: non-irritant

### **Components:**

#### **ammonium nitrate:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: non-irritant

#### **potassium nitrate:**

Species: Rabbit  
Result: No skin irritation

### **Serious eye damage/eye irritation**

#### **Product:**

Species: Rabbit  
Method: OECD Test Guideline 405  
Result: non-irritant

### **Components:**

#### **ammonium nitrate:**

Species: Rabbit  
Method: OECD Test Guideline 405  
Result: Irritant

#### **potassium nitrate:**

Species: Rabbit  
Result: No eye irritation

### **Respiratory or skin sensitisation**

#### **Product:**

Result: non-sensitizing

### **Components:**

#### **ammonium nitrate:**

Result: Does not cause skin sensitisation.

#### **potassium nitrate:**

Result: non-sensitizing

### **Germ cell mutagenicity**

#### **Product:**

Genotoxicity in vitro : Remarks: No data available



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### Components:

#### **ammonium nitrate:**

Genotoxicity in vitro : Method: OECD Test Guideline 471  
Result: negative

#### **potassium nitrate:**

Genotoxicity in vitro : Remarks: No data available

### **Carcinogenicity**

#### Product:

Remarks: Contains no ingredient listed as a carcinogen

### Components:

#### **ammonium nitrate:**

Species: Rat

Remarks: Animal testing did not show any carcinogenic effects.

#### **potassium nitrate:**

Remarks: Did not show carcinogenic effects in animal experiments.

### **Reproductive toxicity**

#### Product:

Effects on fertility :  
Remarks: No toxicity to reproduction

Effects on foetal development : Remarks: Did not show teratogenic effects in animal experiments.  
Information given is based on data obtained from similar substances.

### Components:

#### **ammonium nitrate:**

Effects on fertility : Species: Rat

Remarks: Animal testing did not show any effects on fertility.

Effects on foetal development : Species: Rat  
Remarks: Did not show teratogenic effects in animal experiments.

#### **potassium nitrate:**

Effects on fertility :  
Remarks: No toxicity to reproduction

Effects on foetal development : Remarks: Did not show teratogenic effects in animal experiments.

### **STOT - single exposure**

**Product:**

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

**Components:**

**potassium nitrate:**

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

### **STOT - repeated exposure**

**Product:**

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

**Components:**

**potassium nitrate:**

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: by inhalation

Exposure time: 2 w

Method: Repeated Dose Inhalation Toxicity: 28-day or 14-day Study.

**potassium nitrate:**

Species: Rat

NOAEL: >= 1.500 mg/kg

Exposure time: 1 d

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### Experience with human exposure

**Product:**

General Information : Danger of methaemoglobin formation.

### Further information

**Product:**

Remarks: The product was not tested. The statement was derived from products of similar structure and composition.

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**ammonium nitrate:**

Toxicity to fish : LC50 (Fish): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 490 mg/l  
Exposure time: 48 h

LC50 : 490 mg/l

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l  
Exposure time: 10 d

**potassium nitrate:**

Toxicity to fish : LC50 (Fish): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 490 mg/l  
Exposure time: 48 h

Toxicity to algae : LC50 : >= 1.700 mg/l  
Exposure time: 10 d

### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

**Components:**

**ammonium nitrate:**

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

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### **potassium nitrate:**

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

### 12.3 Bioaccumulative potential

#### **Product:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

#### **Components:**

##### **ammonium nitrate:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -3,1

##### **potassium nitrate:**

Bioaccumulation : Remarks: Does not bioaccumulate.

### 12.4 Mobility in soil

#### **Product:**

Mobility : Remarks: Groundwater contamination is unlikely.

Distribution among environmental compartments : Remarks: No data available

#### **Components:**

##### **potassium nitrate:**

Mobility : Remarks: No data available

### 12.5 Results of PBT and vPvB assessment

#### **Product:**

Assessment : Remarks: No data available

#### **Components:**

##### **potassium nitrate:**

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

### 12.6 Other adverse effects

#### **Product:**

Additional ecological information : Information refers to the main component.  
Do not flush into surface water or sanitary sewer system.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- Product : Check if agriculture use is possible.  
Contact manufacturer.
- Contaminated packaging : Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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### SECTION 14: Transport information

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

Not applicable

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not relevant

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### SECTION 15: Regulatory information

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

Water contaminating class : WGK 1 slightly water endangering  
(Germany)

Other regulations : TRGS 511 'Ammonium nitrate'

#### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

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### SECTION 16: Other information

#### Full text of H-Statements

H272 : May intensify fire; oxidizer.

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H319 : Causes serious eye irritation.

### Full text of other abbreviations

Eye Irrit. : Eye irritation  
Ox. Sol. : Oxidizing solids

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardization; 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; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); 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; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

### Further information

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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