according to Regulation (EC) No. 1907/2006

Hakaphos® Calcidic Plus P 10-31-10(+10)



Version: 1.9 Revision Date:
Date of last issue: 23.12.2022 07.04.2023

Date of first issue: 07.10.2016

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

1.1 Product identifier

Trade name : Hakaphos® Calcidic Plus P 10-31-10(+10)

UFI : 2FP5-9066-8008-6RV7

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

Use of the : Fertilizer

Substance/Mixture

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

: info@compo-expert.com

1.4 Emergency telephone number

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)

Acute toxicity, Category 4 H302: Harmful if swallowed.

Skin irritation, Category 2 H315: Causes skin irritation.

Serious eye damage, Category 1 H318: Causes serious eye damage.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms





Signal word : Danger

Hazard statements : H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements : Prevention:

P280 Wear protective gloves/ eye protection/ face

protection.

P284 In case of inadequate ventilation wear

respiratory protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER

or doctor/ physician if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and

water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with

water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsina

P310 Immediately call a POISON CENTER or

doctor/ physician.

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 C III)

2.3 Other hazards

Unspecified

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration
	EC-No.		(% w/w)
	Registration number		

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urea phosphate (1:1)	4861-19-2	Skin Corr. 1B; H314	>= 2 - <= 10
	225-464-3		
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27-	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 10 - <= 55
	XXXX		
Nitric acid, ammonium calcium salt	15245-12-2 239-289-5	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 10 - <= 55
	01-2119493947-16- XXXX		

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : Keep patient calm, remove to fresh air, seek 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.

Remove contaminated clothing. If irritation develops, get

medical attention.

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 : No information available.

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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

Unsuitable extinguishing

media

: Foam

Dry chemical

Carbon dioxide (CO2)

Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during

firefighting

: At temperatures above 130 °C, dangerous decomposition

gases can be emitted:

Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide,

ammonia

Oxides of phosphorus

5.3 Advice for firefighters

for firefighters

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.

: Fire residues and contaminated fire extinguishing water must Further information

be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

Avoid contact with skin and eyes.

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.

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

none, For personal protection see section 8.

according to Regulation (EC) No. 1907/2006

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid dust formation.

Avoid contact with skin, eyes and clothing.

Protect from contamination. Keep away from direct sunlight.

Protect against heat. 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.

Hygiene measures : At the end of the shift the skin should be cleaned and skin-

care agents applied.

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 against humidity (product is hygroscopic

and tends to cake or disintegrate)

Advice on common storage : Store well away from other substances.

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

preparations

7.3 Specific end use(s)

Specific use(s) : Always read the label and product information before use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

3 mg/m³ (Dust entering alveoli), 10 mg/m³ (inhalable dust)

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	Long-term systemic effects	36 mg/m3
	Workers	Skin contact	Long-term systemic effects	5,12 mg/kg bw/day

according to Regulation (EC) No. 1907/2006

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	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
Nitric acid, ammonium calcium salt	Workers	Inhalation	Specific effects	24,5 mg/m3
Remarks:	Exposure time: 1 DAY			
	Workers	Skin contact	Specific effects	13,9 mg/kg
Remarks: Exposure time: 1 DAY				
	Consumers	Inhalation	systemic effects	6,3 mg/m3
	Consumers	Skin contact	systemic effects	8,33 mg/kg
	Consumers	Ingestion	systemic effects	8,33 mg/kg
Remarks:	Exposure time: 1 DAY			

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

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

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

Eye protection : Tightly fitting safety goggles

Hand protection

according to Regulation (EC) No. 1907/2006

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Remarks : Chemical resistant protective gloves (EN 374). The choice of

an appropriate glove does not only depend on its material but also on other quality features and is different from one

producer to the other.

Respiratory protection : Particle filtering disposable mask DIN EN 149 with filter FFP2.

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

Physical state : solid

Colour : light grey

Odour : odourless

pH : ca. 2,5, Concentration: 100 g/l (20 °C)

Melting point/range : No data available

Boiling point/boiling range : Not applicable

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : not auto-flammable

Upper explosion limit : Not explosive

Lower explosion limit : Not explosive

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : Not applicable

Density : 1,18 g/cm³

according to Regulation (EC) No. 1907/2006

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Bulk density : ca. 1.050 kg/m³

Solubility(ies)

Water solubility : soluble

Partition coefficient: n-

octanol/water

: No data available

Auto-ignition temperature : not determined

Decomposition temperature : > 130 °C

To avoid thermal decomposition, do not overheat.

Viscosity

Viscosity, dynamic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics

Particle Size Distribution : $D50 = 475 \mu m$

D50 Tolerance range = $380 \ \mu m$ - $570 \ \mu m$ Measurement technique: Sieve analysis

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored normally.

10.3 Possibility of hazardous reactions

Hazardous reactions : Evolution of ammonia under influence of alkalies.

10.4 Conditions to avoid

Conditions to avoid : Corrosive to metals

Contact with water or moist air liberates phosphoric acid.

according to Regulation (EC) No. 1907/2006

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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 monoxide, nitrogen dioxide, dinitrogenoxide,

ammonia

Oxides of phosphorus

SECTION 11: Toxicological information

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

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

Nitric acid, ammonium calcium salt:

Acute oral toxicity : LD50: > 300 mg/kg

Acute inhalation toxicity : Remarks: Not relevant because of low vapour pressure.

Remarks: Not relevant because of low dust formation.

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

Method: OECD Guideline 402

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

according to Regulation (EC) No. 1907/2006

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ammonium nitrate:

Species: Rabbit

Method: OECD Test Guideline 404

Result: non-irritant

Nitric acid, ammonium calcium salt:

Species: Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

ammonium nitrate:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Irritant

Nitric acid, ammonium calcium salt:

Species: Rabbit

Result: Irritating to eyes.

Respiratory or skin sensitisation

Product:

Result: non-sensitizing

Components:

ammonium nitrate:

Result: Does not cause skin sensitisation.

germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: In vitro tests did not show mutagenic effects

The product has not been tested. The information is derived

from the properties of the individual components.

Components:

ammonium nitrate:

Genotoxicity in vitro : Method: OECD Test Guideline 471

Result: negative

according to Regulation (EC) No. 1907/2006

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Carcinogenicity

Product:

Remarks: Contains no ingredient listed as a carcinogen

Components:

ammonium nitrate:

Species: Rat

Remarks: Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Product:

Effects on fertility

Remarks: No toxicity to reproduction

Effects on foetal : Remarks: Contains no ingredient listed as toxic to

development reproduction

Components:

ammonium nitrate:

Effects on fertility : Species: Rat

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

Effects on foetal : Species: Rat

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.

STOT - repeated exposure

Product:

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

according to Regulation (EC) No. 1907/2006

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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.

Aspiration hazard

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

11.2 Information on other hazards

Endocrine disrupting properties

No data available

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.

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

according to Regulation (EC) No. 1907/2006

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: EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l Toxicity to algae

Exposure time: 10 d

Nitric acid, ammonium calcium salt:

Toxicity to fish : LC50 (Guppy): 1.378 mg/l

Method: OECD Test Guideline 203

aquatic invertebrates

Toxicity to daphnia and other : LC50 (Daphnia magna (Water flea)): 490 mg/l

Toxicity to algae : LC50 (other aquatic plant): > 1.700 mg/l

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: The product works in the soil as fertilizer and is

diminished in a few weeks.

Components:

ammonium nitrate:

Biodegradability : Remarks: The methods for determining the biological

degradability are not applicable to inorganic substances.

Nitric acid, ammonium calcium salt:

Biodegradability : Remarks: The methods for determining biodegradability 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

Nitric acid, ammonium calcium salt:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Product:

Mobility : Remarks: Groundwater contamination is unlikely.

according to Regulation (EC) No. 1907/2006

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Distribution among : Remarks: No data available

environmental compartments

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Remarks: Not applicable

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological : There

information

: There is a high probability that the product is acute not

harmful to aquatic organisms. Additional ecological information

The product has not been tested. The information is derived

from the properties of the individual components.

At higher pH values, which can be found in natural surface waters, an increase of toxic effects on aquatic organsims may

be expected.

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.

SECTION 14: Transport information

14.1 UN number or ID 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

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14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not relevant

SECTION 15: Regulatory information

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

Water contaminating class

(Germany)

: WGK 1 slightly water endangering

Other regulations : TRGS 511 'Ammonium nitrate'

This product is subject to Regulation (EU) 2019/1148; suspicious transactions, disappearance or theft of the product

must be reported to the relevant authority.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H272 : May intensify fire; oxidizer. H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H318 : Causes serious eye damage. H319 : Causes serious eye irritation.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Ox. Sol. : Oxidizing solids
Skin Corr. : Skin corrosion

(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

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Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; 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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