

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 15.12.2017

Version: 2.0

Product: **Prohexadione Calcium**

(ID no. 30733870/SDS_CPA_00/EN)

Date of print 24.04.2024

1. Identification

Product identifier

Prohexadione Calcium

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

Relevant identified uses: crop protection product, growth regulator

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Crop Protection

Telephone: +49 621 60-27777

E-mail address: Produktinformation-Pflanzenschutz@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Aquatic Acute 3

Aquatic Chronic 3

For the classifications not written out in full in this section the full text can be found in section 16.

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Label elements

Globally Harmonized System (GHS)

Hazard Statement:

H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Other hazards

According to UN GHS criteria

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

crop protection product, growth regulator, water dispersible granules

Hazardous ingredients (GHS)

According to UN GHS criteria

prohexadione calcium

Content (W/W): 28,4 %
CAS Number: 127277-53-6

Aquatic Chronic 3
H412

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Sodium alkylnaphthalenesulfonate blend

Content (W/W): < 3 %

Skin Corr./Irrit. 2

Eye Dam./Irrit. 1

H318, H315

Ammonium sulphate

Content (W/W): < 60 %

CAS Number: 7783-20-2

EC-Number: 231-984-1

Acute Tox. 5 (oral)

Aquatic Acute 3

H303, H402

Silicic acid, calcium salt

Content (W/W): < 5 %

CAS Number: 1344-95-2

EC-Number: 215-710-8

Silicon dioxide

Content (W/W): < 3 %

CAS Number: 7631-86-9

EC-Number: 231-545-4

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant reaction of the human body to the product known.

Indication of any immediate medical attention and special treatment needed

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Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, foam, water spray

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide, nitrogen oxides, sulfur oxides
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up.

Avoid raising dust. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

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Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight. Protect against moisture.

Storage stability:

Storage duration: 24 Months

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

1344-95-2: Silicic acid, calcium salt

7631-86-9: Silicon dioxide

7783-20-2: Ammonium sulphate

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection not required.

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact

(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Wearing of closed work clothing is recommended. The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	granules, solid
Colour:	tan
Odour:	characteristic
Odour threshold:	Not determined due to potential health hazard by inhalation.
pH value:	approx. 6,0 - 8,0 (20 °C)
Melting point:	not applicable, The substance / product decomposes therefore not determined.
Boiling point:	The product is a non-volatile solid., not applicable
Flash point:	not applicable, the product is a solid
Evaporation rate:	not applicable
Flammability:	not determined
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Vapour pressure:	not applicable
Relative vapour density (air):	not applicable
Solubility in water:	dispersible

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Partitioning coefficient n-octanol/water (log Kow):

The statements are based on the properties of the individual components.

Information on: prohexadione calcium

Partitioning coefficient n-octanol/water (log Kow): -2,9
(20 °C)

Self ignition:

Based on its structural properties the product is not classified as self-igniting.

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Viscosity, dynamic:

not applicable, the product is a solid

Explosion hazard:

not explosive

Fire promoting properties: not fire-propagating

Other information

Self heating ability:

It is not a substance capable of spontaneous heating.

Bulk density:

approx. 0,54 - 0,70 kg/m³

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

See MSDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:

strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): > 5.000 mg/kg

(by inhalation): > 4,21 mg/l

LD50 rat (dermal): > 2.000 mg/kg

No mortality was observed.

Irritation

Assessment of irritating effects:

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:

Buehler test guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:

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The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Remarks: The product has not been tested. The statement has been derived from the properties of the individual components.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Silicon dioxide

Assessment of repeated dose toxicity:

Repeated inhalative uptake of particles/dust reaching the alveoli may cause damage to the lungs.

Aspiration hazard

The product has not been tested. The statement has been derived from the properties of the individual components.

No aspiration hazard expected.

Other relevant toxicity information

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Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

Toxic to aquatic life.

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: prohexadione calcium

Toxicity to fish:

LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic)

| *Information on: Ammonium sulphate*

| *Toxicity to fish:*

LC50 (96 h) 53 mg/l, Oncorhynchus mykiss (Fish test acute)

Information on: prohexadione calcium

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Information on: prohexadione calcium

Aquatic plants:

EC50 (14 d) > 1,2 mg/l, Lemna gibba

No observed effect concentration (14 d) 0,12 mg/l, Lemna gibba

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product has not been tested. The statement has been derived from the properties of the individual components.

| *Information on: Prohexadione-Calcium*

| *Elimination information:*

Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested. The statement has been derived from the properties of the individual components.

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Information on: prohexadione calcium

Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:

Adsorption in soil: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: prohexadione calcium

Assessment transport between environmental compartments:

Adsorption in soil: Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Other adverse effects

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

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ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Inland waterway transport**ADN**

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport**IMDG**

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

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user

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

To avoid risks to man and the environment, comply with the instructions for use.

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Acute Tox.	Acute toxicity
H412	Harmful to aquatic life with long lasting effects.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H303	May be harmful if swallowed.
H402	Harmful to aquatic life.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a

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Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.