Safety Data Sheet

CALCIUM NITRATE

SDS (formerly MSDS)

According to Regulation (EC) No 2015/83

Date: 03/2024

Dutch Direct®

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade/Product name:	Van Iperen Calcium Nitrate Horticultural Grade

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

1.2.1. Relevant identified uses

Professional use of fertilizers containing nitric acid ammonium calcium salt. Consumer use of seeds coated in fertilizer substance.

1.2.2. Uses advised against

Not recommended for other uses than is mentioned.

1.3. Details of the supplier of the safety data sheet

Van Iperen International BV
Smidsweg 24
3273 LK Westmaas - Nederland
T +31 (0) 186 578 888 - F +31 (0) 186 573 452
info@iperen.com - www.vaniperen.com

1.4. Emergency telephone number

In case of emergency contact the national emergency telephone number:	UK and Ireland: 112 or 999

Country	Official advisory body	Address	Emergency number
Ireland (Republic of)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 8379964
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

Section 2. Hazards identification

2.1. Classification of the substance or mixture

Mixture is classified as dangerous according to the Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Acute toxicity (oral), Hazard Category 4

Serious eye damage/eye irritation, Hazard Category 1

2.2. Label elements	
Labelling according to Regulation (EC) No. 1272/2008 [CLP]:	
Hazard pictograms (CLP):	
Signal word (CLP):	Danger
	H302 Harmful if swallowed. **H318** Causes serious eye damage. **P264** Wash hands thoroughly after handling. **P270** Do not eat, drink or smoke when using this product. **P280** Wear protective gloves/protective clothing/eye protection/face protection. **P301+P312 IF SWALLOWED:** Call a POISON CENTER or doctor/physician if you feel unwell. **P305+P351+P338 IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
2.3. Other hazards	
According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since calcium nitrate is inorganic.	

Section 3. Composition/information on ingredients

3.1. Substances

Name	CAS	EC	Registration number	Classification	Content (%)
Nitric acid, ammonium calcium sal	15245-12-2	239-289-5	01-2119493947-16-0001	Acute Tox. 4 Eye Dam. 1	≥ 97.0
1Calcium nitrate	13477-34-4	233-332-1	01-2119495093-35-0008	Acute Tox. 4 Eye Dam. 1	≤ 3.0

3.2. Mixture

Contains no hazardous mixtures.

Notes: 1anhydrous forms of calcium nitrate (CAS 10124-37-5) under normal conditions not occur. In production is used commonly occurring form of calcium nitrate tetrahydrate (CAS 13477-34-4), which is not classified as oxidizing (Cat. 3 May intensify fire; oxidizer.) Anhydrous form was used only for the purposes of registration materials, complete classification of the anhydrous form of calcium nitrate is given in Section 16.

Section 4. First aid measures

4.1. Description of first aid measures	
Eye contact:	Immediately wash eyes with plenty of running water for at least 15 minutes; keep the eyelids open and occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice.
Skin contact:	Wash affected skin area with plenty of water and soap for at least 15 minutes thoroughly while removing contaminated clothing and shoes. Seek medical advice if irritation develops and persists.
Ingestion:	Seek medical advice if the victim feels unwell. Wash out mouth with plenty of water and give plenty of water to drink. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation:	Remove the victim from exposure into fresh air immediately if adverse effects (e.g. dizziness, drowsiness or respiratory irritation) occur. If not breathing, give artificial respiration and if breathing is difficult, give oxygen, seek medical advice. Seek medical advice when dust is intensively inhaled and the victim feels unwell.
4.2. Most important symptoms and effects, both acute and delayed	
Acute effects:	Eye irritation (redness).
Ingestion:	Abdominal pain, confusion, convulsions, dizziness, headache, nausea, unconsciousness.
Delayed effects: Ingestion:	Blue lips or fingernails (methemoglobinemia)
4.3. Indication of any immediate medical attention and special treatment needed:	
Normally no immediate medical service and special treatment is needed. If the effects are persisting get medical attention. It can cause methemoglobinemia.	

Section 5. Firefighting measures

5.1. Extinguishing media	
Suitable extinguishing media:	Use appropriate extinguishing media.
Note: As the substance is non-combustible, but enhances combustion of other substances, the preferable medias are water or foam.	
Unsuitable extinguishing media:	No unsuitable extinguishing media known.
5.2. Special hazards arising from the substance or mixture	
In case of fire, may produce hazardous decomposition products such as nitrogen oxides (NO, NO2 etc.). Keep away from combustible materials.	

5.3. Advice for firefighters:

No special measures required. In the event of fire, wear a self-contained breathing apparatus and a chemical protective suit.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid creating dusty conditions. Avoid contact with eyes and skin. Use personal protective equipments. Keep away from sources of ignition.

6.2. Environmental precautions:

Prevent the material from entering surface water or sanitary sewer system. Do not discharge directly to a water source. If accidental high amount spillage or washings enter drains or watercourses contact local Environment Authority.

6.3. Methods and material for containment and cleaning up:

Sweep up into suitable labelled containers for recovery or disposal. Clean up affected area with a large amount of water. Pick up with suitable absorbent material (dry sand or soil). Do not use sawdust and other combustible materials as absorbent. Sweep up absorbed substance, place in a solid waste container for later disposal.

6.4. Reference to other sections:

For more information about protective equipment see section 8.
For more information about the disposal of substance, see section 13.

Section 7. Handling and storage

7.1. Precautions for safe handling

Use with adequate ventilation. Use personal protective equipment as advised in Section 8.2. Avoid contact with eyes and skin. Avoid creating dusty conditions. Keep away from sources of ignition. Prevent moisture pick-up. Do not to eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Keep in the original container. Do not store near combustible materials. Keep container tightly closed in a cool, dry, well-ventilated place. Keep product away from heat, sparks, flame and other sources of ignition, out of direct sunlight and away from incompatible materials (see Section 10).

Suitable material for containers: Plastic drums, containers and vessels. Combustible and reducing materials.

7.3. Specific end use(s)

See point 1.2.

Section 8. Exposure controls/personal protection

8.1. Control parameters		
Highest exposure limits (NPEL) based on Slovak Order No. 355/2006: No limits established for this product.		
Nitric acid, ammonium calcium salt:		
Regulated occupational exposure limit values: Total inhalable dust – 10 mg/m3, Respirable dust – 3 mg/m3		
Exposure pattern	Derived No Effect Level (DNEL)	
	Workers	General population
Oral1	Not applicable	8.33 mg/kg bw/d
Dermal1	13.9 mg/kg bw/day	8.33 mg/kg bw/day
Inhalation1	24.5 mg/m3	6.3 mg/m3
Exposure pattern	Predicted No Effect Level (PNEC)	
Aqua-freshwater	0.45 mg/l	
Aqua-marine water	0.045 mg/l	
Aqua-intermittent release	4.5 mg/l	
STP	18 mg/l	
8.2. Exposure controls		
None required: Use of adequate ventilation is good industrial practice. In addition, an eyewash facility and a safety shower for facilities storing or utilizing this material is good industrial practice. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.		
a) Eye/face protection:	Use dust goggles if high dust concentration is generated.	
b) Skin protection:		
I. Hand protection:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.	
II. Other:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved.	

c) Respiratory protection:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
d) Thermal hazards:	Information is not available.

8.3. Environmental exposure controls:

Leakage of product should be cleaned up promptly and placed in a clean labelled container for safe disposal.
(See also Section 6.3 and 13).

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

appearance:	solid (granule)
granulometry:	1 – 4 mm
Colour:	white
Odour:	odourless
Odour threshold:	Information is not available.
pH:	5.0 – 7.0
melting point/freezing point:	116.6°C
initial boiling point and boiling range:	not determined, no melting up to 300°C*
flash point:	irrelevant, as the substance is an inorganic.
evaporation rate:	Information is not available.
flammability (solid, gas):	Non-flammable.
upper/lower flammability or explosive limits:	Information is not available.
Vapour pressure:	considered negligible (based on high melting point)
vapour density:	irrelevant
density:	1.12 g/cm3 at 25°C
solubility(ies): in water:	1,147 g/l pri 20°C (Method A.6/OECD 105)
partition coefficient: n-octanol/water:	irrelevant as the substance is inorganic.

auto-ignition temperature:	Irrelevant, non-flammable substance
decomposition temperature:	Information is not available.
viscosity:	not applicable to solids.
explosive properties:	not explosive.
oxidising properties:	not oxidising.

9.2. Other information	
surface tension:	not surface active (based on molecular structure).
bulk density:	1,000 – 1,200 kg.m-3

*** Information relating to Nitric acid, ammonium calcium salt.**

Section 10. Stability and reactivity

10.1. Reactivity

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.2. Chemical stability

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.3. Possibility of hazardous reactions

When heated, decomposition products.

10.4. Conditions to avoid

Decomposes on heating.

10.5. Incompatible materials

Reactive or incompatible with the following materials: combustible materials, acids and alkalis.

10.6. Hazardous decomposition products

These products are nitrogen oxides metal oxide/oxides.

Section 11. Toxicological information

11.1. Information on toxicological effects	
Acute toxicity:	Harmful if swallowed.
Oral:	
Female, OECD 423: LD50: > 300 — < 2,000 mg/kg bw	
Dermal:	
OECD 402 with KNO3.5Ca(NO3)2.10H2O: LD50 > 2,000 mg/kg bw	
Inhalation:	
No data. Vapour pressure considered to be low, particle size is high.	
Sub-acute toxicity:	
Oral 28-day; OECD 407 with KNO3.5Ca(NO3)2.10H2O: NOAEL ≥1,000 mg/kg bw	
b) skin corrosion/irritation: Based on available data, the classification criteria are not met.	
c) serious eye damage/irritation: Causes serious eye damage.	
d) respiratory or skin sensitisation: Based on available data, the classification criteria are not met.	
e) germ cell mutagenicity: Based on available data, the classification criteria are not met.	
f) carcinogenicity: Based on available data, the classification criteria are not met.	
g) reproductive toxicity: Based on available data, the classification criteria are not met.	
h) STOT-single exposure: Information is not available.	
i) STOT-repeated exposure: Information is not available.	
j) aspiration hazard: Information is not available.	

Section 12. Ecological information

12.1. Toxicity

Fish (short-term):

no guideline followed, with ammonium nitrate:
48-h LC50: 447 mg/l
Daphnia magna (short-term):
OECD 202, EC C.2:
48-h EC50: >100 mg/l

Algae:

OECD 202:
72-h EC50: >100 mg/l
NOEC: 100 mg/l

Inhibition of microbial activity:

OECD 209, with sodium nitrate
3-h EC50: >1,000 mg/l
NOEC: 180 mg/l

12.2. Persistence and degradability:

In aqueous solution, nitric acid, ammonium calcium salt is completely dissociated into the calcium ion (Ca2+), the ammonium ion (NH4 +) and the nitrate anion (NO3 -). Hydrolysis of nitric acid, ammonium calcium salt does not occur. Hydrolysis: No data available: not required as the substance is inorganic.

12.3. Bioaccumulative potential:

Such a mixture has a low potential for bioaccumulation.

12.4. Mobility in soil:

Adsorption coefficient: Low potential for adsorption (based on substance properties).

12.5. Results of PBT and vPvB assessment:

According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted since nitric acid, ammonium calcium salt is inorganic.

12.6. Other adverse effects:

No other information is available.

Section 13. Disposal considerations

Waste from residues:	In accordance with local and national regulations, disposed by landfill or incineration. **Containers:** Empty containers or liners may retain some product residues. Do not empty into drains ;dispose of this material and its container in a safe way. Dispose of in accordance with all applicable local and national regulations.

Section 14. Transport information

Product is not classified as dangerous good for transport according to the ADR/RID/IMDG Code. Provision 208, Chapter 3.3 of ADR: The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is not subject to the requirements of ADR.

14.1. UN number	Unassigned
14.2. UN proper shipping name:	Unassigned
14.3. Transport hazard class(es)	Unassigned
14.4. Packing group	Unassigned
14.5. Environmental hazards:	Product is not classified as environmentally hazardous substance according to the ADR/RID/IMDG Code.
14.6. Special precautions for user:	The packed product can be transported by vehicles, railway carriages and ships.
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code:	Information is not available.

Section 15. Regulatory information

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

Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Regulation, Evaluation, Authorisation and Restriction of Chemicals (REACH) and as amended;
Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives
67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and as amended; Commission regulation (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European
Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work and as amended.

15.2. Chemical safety assessment:

According to the Regulation REACH, Article 14 was carried out a chemical safety assessment for individual components of the mixture

Section 16. Other information

Instructions for the training:	
Instruction in work with product shall be included into the educational system about the safety work (initial training, training at the workplace, repeated training) according to concrete conditions at the workplace.	
List of relevant H-phrases:	
H302	Harmful if swallowed.
H318	Causes serious eye damage.

Other information:	
Classification and labelling Calcium nitrate CAS 10124-37-5:	
Danger	
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H318	Causes serious eye damage.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED:	Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 IF IN EYES:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Company disclaimer

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 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 proceed, unless specified in the text.

FORMULA 1 FERTILIZERS

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