CalZinc Horticultural Grade

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

1.1. Product identifier
Van Iperen CalZinc Horticultural Grade
Calzinc – the solid mixture of calcium nitrate and magnesium nitrate hexahydrate with small amounts of zinc nitrate, ammonium nitrate and water.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Consumer use of fertilizers. Fertilizer created through of mixing the fertilizer types marked with sign
EC fertilizer:A.1.1b, E.1.7b.
Uses advised against: not identified.

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 mixture
Classification in accordance with Regulation 1272/2008 (CLP)
Acute Tox 4, H302: Harmful if swallowed.
Eye Dem 1, H318: Causes serious eye damage.

2.2. Labelling in accordance with Regulation 1272/2008 (CLP)
Signal word: Danger

H318: Causes serious eye damage.
H302: Harmful if swallowed.
P280: Wear protective gloves/protective clothing/eye protection/face protection. P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P330: Rinse mouth
P310: Immediately call a POISON CENTER or doctor/physician. P501: Dispose content/containers to an authorized waste facility.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Mixture

Substance	Concentration	CAS No	10124-37-5
Calcium nitrate	> 54% w/w	EC No	233-332-1
		Index No	Not available
		REACH No	01-2119495093-35-xxxx
		Classification according to Regulation 1272/2008	Eye Dem. Cat 1 H318 Acute Tox. 4 H302
Ammonium nitrate	2.8 – 3.4 % w/w	CAS No	6484-52-2
		EC No	229-347-8
		REACH No	01-2119490981-27-xxxx
		Index No	Not available

		Classification according to Regulation 1272/2008	Oxid Sol. 3, H272 Eye Irrit. 2, H319

SECTION 4: First aid measures

4.1. Description of first aid measures Attention:
Causes irritation to eyes and digestive system (if swallowed) and skin.

Eye contact:
•Immediately flush eyes with large amounts of water for at least 15 minutes while holding the eyelids open to ensure that the entire surface is flushed
•Seek medical advice
Ingestion:
•Wash mouth out with water. Drink 1-2 glass of water.
•Seek medical advice.
Skin contact:
•After contact with skin, wash with plenty of water
•To take off contaminated cloths.

4.2. Most important symptoms and effects, both acute and delayed
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available.
In the case of abnormal symptoms contact with medicine doctor.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Use water only! Contact professional fire-fighters immediately. For small fires, do NOT use chemicals, carbon dioxide, halon or foams. For large fires flood fire with water from a distance.

5.2. Special hazards arising from the substance or mixture
In case of fire, the following can be released: Nitrogen oxides (NOx)
Protective equipment:
High temperatures may cause pressure build-up in closed containers. During the thermal decomposition produced of harmful compounds. Reduce dust and vapour with water spray.
Brown fumes containing toxic nitrogen oxides
Explosive mixture:
Not applicable-non-explosive.

5.3. Advice for firefighters
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Clothing resistant to high temperatures. Independent self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment (section 8). Avoid contact with eyes.
Do not let this chemical enter the environment. Do not ingest.

6.2. Environmental precautions
Avoid direct discharge into drains.

6.3. Methods and material for containment and cleaning up
Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Collect up the product and place it in a sealable container . Suitably labeled.
Transfer carefully to container.
Then take the spare containers to an area reserved for subsequent recycling or disposal. Do not put the cast down material back into the original container, for re-use.
Avoid prolonged or repeated exposure.

6.4. Reference to other sections
Section 8.
Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep in original containers in a covered warehouse.
Storage in dry area.
Protect from direct sunlight.

7.2. Conditions for safe storage, including any incompatibilities
Keep away from incompatibles such as reducing agents, flammable agents, strong acids
Keep away from foodstuffs, beverages and feed.
Keep away from heat and sources of ignition.

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Regulated occupational exposure limit values: none
Recommended occupational, consumer and environmental exposure limit values (following from the performed CSA) for main component – calcium nitrate (CAS 10124-37-5):

Exposure pattern	Derived No Effect Level (DNEL)	
	Workers	General population
Oral[1]	Not applicable	8,55[3]mg/kg bw/d
Dermal[1]	14,27[3]mg/kg bw/day	8,55[3]mg/kg bw/day
Inhalation[1]	25,16[3]mg/m	6,55[3]mg/m
	Predicted No Effect Level (PNEC)[2]	
Aqua-freshwater	0.45 mg/l	
Aqua-marine water	0.045 mg/l	
Aqua-intermittent release	4.5 mg/l	
STP	18 mg/l	

Exposure pattern Derived No Effect Level (DNEL)
Workers General population
Oral1 Not applicable 8,553mg/kg bw/d
Dermal1 14,273mg/kg bw/day 8,553mg/kg bw/day
Inhalation1 25,163mg/m 6,553mg/m
Predicted No Effect Level (PNEC)2
Aqua-freshwater 0.45 mg/l
Aqua-marine water 0.045 mg/l
Aqua-intermittent release 4.5 mg/l
STP 18 mg/l
1: As the substance is classified for acute oral toxicity an acute DNEL should be derived for the general population. However, peak exposure is considered not possible and therefore an acute DNEL systemic will not be derived.
Therefore, the long-term DNEL is considered sufficient to ensure that effects from acute oral exposure to the substance do not occur. As an dermal and inhalation acute toxicity hazard leading to Classification and Labelling of the substance has not been identified, the long-term DNEL is considered sufficient to ensure that effects from acute exposure to the substance do not occur (in accordance with ECHA Guidance on information requirements and chemical safety assessment: Chapter R.8: Characterisation of dose [concentration]-response for human health, May 2008 and Part B: Hazard Assessment, Draft new chapter B.8 Scope of Exposure Assessment, March 2010).
2: PNECsediment/soil/oral are not derived as these are not applicable/not relevant.
3Providedonthe basis ofproportionalityproperties of its components

8.2. Exposure controls Engineering Controls:

No engineering controls.
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.
Avoid contact with eyes.

Eye protection

Use safety goggles.
Protection of hands
The selected protective gloves have to satisfy the specifications of UE Directive 89-689-EEC and standard EN 374 derived from it.
Body protection
Use work clothes and shoes.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Solid: flakes. color: whitish
Odour:	Specific.
pH(10% solution):	6- 7
Melting / freezing point:	95°C at 1013 hPa
Initial boiling point and boiling range:	Not available.
Flash point:	Inorganic substances.
Evaporation rate:	Not available
Flammability (solid);	Not flammable.
Upper / lower flammability or upper / lower explosion limit:	Not applicable - non-combustible.
Vapour Pressure:	<0.00001 Pa at 20 ° C
Vapour density:	Not available
Bulk density	0,9 kg/dm3±5%
Solubility(ies):	220 g/ 100 g water at 20oC
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	No data.
Decomposition temperature:	No data.
Viscosity: Not applicable.	
Explosive properties:	Not explosive,
Oxidising properties:	No oxidising properties

9.2. Other information

Cr < 2 ppm
As < 2 ppm
Hg < 0,01 ppm
Cl < 70 ppm
Fe < 5 ppm
Insolubles 0,01%

SECTION 10: Stability and reactivity

10.1.Reactivity
Reactive with strong reducing agents.

10.2. Chemical stability
Under normal storage and use of the substance is chemically stable.

10.3. Possibility of hazardous reactions
The substance reacts with strong reducing agents.

10.4. Conditions to avoid
Avoid contact with strong heat sources such as solar radiation and flames.

10.5. Incompatible materials
Strong reducing agents.

10.6. Hazardous decomposition products
Intensive heated to temperatures> 330 ° C followed by decomposition with emission of toxic gases (nitrogen oxides).

SECTION 11: Toxicological information

11.1. Acute toxicity
There no available toxicological studies for mixture as such. The assessment was made on the basis of ownership of components of the mixture.

a) Acute toxicity: harmful if swallowed
ingestion: swallowing small amounts can cause headache, dizziness. Swallowing large quantities can cause severe gastrointestinal disorders.
b) Skin corrosion/irritation - no irritating
c) Serious eye damage/eye irritation - Causes serious eye damage
d) Respiratory or skin sensitization - no skin or respiratory sensitization
e) Germ cell mutagenicity - no mutagenic

f) Carcinogenicity - no carcinogenic
g) Reproductive toxicity – The mixture is not a threat to fertility.
h) Specific target organ toxicity (STOT) - single exposure – not harmful
i) Specific target organ toxicity (STOT)- repeated exposure - not harmful
j) Aspiration hazard – not applicable

Potential health effects- No data available.
Signs and Symptoms of Exposure- No data available.

ACUTE TOXICITY

	Calcium Nitrate	Amonium nitrate
Acute oral toxicity:	300 mg/kg bw < LD_{50} < 2000 mg/kg bw (OECD 423)	LD_{50}: 2950 mg/kg bw (OECD 401)
Acute dermal toxicity:	LD_{50}: > 2000 mg/kg bw	LD_{50}: > 5000 mg/kg bw (OECD 402)
Acute inhalation toxicity:	No data, low vapour pressure, no exposure	LC_{50}: > 88.8 mg/l (no guideline followed)

LOCAL EFFECTS		
Skin irritation:	Not irritating (OECD 404)	Not irritating (OECD 404)
Eye irritation:	Irritating (OECD 405)	Irritating (OECD 405)
Skin sensitization:	Not sensitizing (OECD 429)	Not sensitizing (OECD 429, with magnesium nitrate, nitric acid ammonium calcium salt, sodium nitrate)
OTHER		
Sub-acute toxicity:	Oral 28-day NOAEL ≥ 1000 mg/kg bw/day (OECD 422)	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)
		Oral 52-week NOAEL = 256 mg/kg bw/day (OECD 453, with ammonium sulfate)
		Inhalation 2-weeks NOAEL ≥ 185 mg/m^3 (OECD 412)
Mutagenicity:	Negative (OECD 471)	Negative (OECD 471, 473, with nitric acid ammonium calcium salt)
	Negative (OECD 473)	
	Negative (OECD 476)	Negative (OECD 476, with potassium nitrate)
Reproductive toxicity:	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422)	Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate)
Carcinogenicity:	No data	Not carcinogenic (OECD 453, with ammonium sulfate)

SECTION 12: Ecological information

12.1. Toxicity
There no available ecotoxicological studies for mixture as such. The assessment was made on the basis of ownership of components of the mixture.

	Calcium Nitrate	Amonium nitrate
Fish (short-term):	96-h LC_{50}: 1378 mg/l (OECD 203)	48-h LC_{50}: 447 mg/l (no guideline followed)
Fish (long-term):	No data	No data

Daphnia magna (short-term):	48-h EC_{50}: 490 mg/l	48-h EC_{50}: 490 mg/l (no guideline followed, with potassium nitrate)
Daphnia magna (long-term):	No data	No data
Algae:	10-d EC_{50}: > 1700 mg/l (seawater)	10-d EC_{50}: > 1700 mg/l (seawater, no guideline followed, performed with potassium nitrate)
Inhibition of microbial activity:	3-h EC_{50}: >1000 mg/l, NOEC: 180 mg/l (OECD 209)	3-h EC_{50}: >1000 mg/l, NOEC: 180 mg/l (OECD 209, with sodium nitrate)

12.2 Persistence and degradability
Biodegradation: Standard test is not applicable as the mixture is inorganic. In addition, biodegradation of nitrate can occur under anaerobic conditions, both under natural conditions and as a controlled process in many wastewater treatment plants, resulting in degradation products like nitrite, oxide of nitrogen, nitrogen, or ammonia. Nitrate degradation is fastest in anaerobic conditions. In the anaerobic transformation of nitrate into N2, N2O and NH3, the biodegradation rate in wastewater plant at 20ºC is 70 g N/kg dissolved solid/day.

12.3.Bioaccumulative potential
Log Kow not relevant as the mixture is inorganic, but considered to be low based on high water solubility. Bioconcentration fctor (BCF): low potential for bioaccumulation (based on calcium nitrate properties).

12.4 Mobility in soil
Adsorption coefficient: Low potential for adsorption (based on calcium nitrate properties).

12.5 Results of PBT and vPvB assessment
The mixture does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH Regulation. The chemical safety assessment was not carried out.

12.6 Other adverse effects - no data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste Removal: Apply as fertilizer or transfer for disposal.
Disposing of the packaging: Empty containers contain residue of material on the inner surfaces. Thoroughly empty containers to be transmitted to authorized waste collector
Empty packaging completely. Prevent pollution of surface waters. Contaminated packaging:
EC codes:
15 01 02 plastic packaging;
Prohibition: Do not dispose of untreated packing with ordinary industrial wastes.
NOTE: The user's attention is drawn to the possible existence of local regulations regarding disposal.

SECTION 14: Transport information

14.1 UN number
Not applicable

14.2 UN proper shipping name
Not applicable

14.3 Transport hazard class(es)
Not applicable

14.4 Packing group
Not applicable

14.5 Environmental hazards
Not applicable

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
Not applicable

SECTION 15: Regulatory information

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

1. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENTAND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a

European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC with amendments
2. COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
3. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 16 December 2008 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; with amendments
4. European Agreement concerning the International Carriage of Dangerous Goods by Road
5. Regulation (EU) No 649/2012 Of The European Parliament and of The Council of 4 July 2012 concerning the export and import of hazardous chemicals.
6. Regulation (EC) No 850/2004 Of The European Parliament and of The Council Of 29 April 2004 On Persistent Organic Pollutants And Amending Directive 79/117/EEC.

15.2. Chemical safety assessment
The chemical safety assessment was not carried out.

SECTION 16: Other information

Other information:
To develop this SDS used results obtained in accordance with the requirements of REACH regulation. Classification of mixture was carried on based on ingredients of the mixture (Additivity formula)

Abbreviation:
Acute Tox 4 – acute toxicity category 4
Eye Dem 1 - Serious eye damage category 1
Eye Irrit. – Irritating for eyes
Ox. Solid – Oxidizing solid
H272 - May intensify fire; oxidizer H319 - Causes serious eye irritation. DNEL: Derived No-Effect Level
PNEC: Predicted No-Effect Concentration NOAEL: No Observed Adverse Effect Level NOEC: No observed effect concentration.
LD50: Lethal Dose 50%. The LD50 corresponds to the dose of a tested substance causing 50% lethality during a specified time interval.
LC50: Lethal Concentration 50%. The LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval.
EC50: Effective Concentration 50%. The EC50 corresponds to the concentration of a tested substance causing 50% changes in response (e.g. on growth) during a specified time interval.
BCF: Bioconcentration factor
PBT: Persistent, bioaccumulative and toxic
vPvB: Very Persistent and very Bioccumulative

Company disclaimer
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