

**Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation")**

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

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### **1.1 Product identifier**

Product name: Haifa-Cal Prime

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

Use of the substance/preparation: Fertilizer, oil industry, building industry and other branches of industry.

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

#### **Company/undertaking identification**

##### **European Importer:**

Haifa Chemicals Northern Europe  
Generaal de Wittelaan 17, bus 16  
B-2800 Mechelen, Belgium  
Tel: +32-15-270811  
Fax: + +32-15 270815  
E-mail: [NorthWestEurope@haifa-group.com](mailto:NorthWestEurope@haifa-group.com)

##### **USA Importer:**

Haifa North America  
307 Cranes Roost Blvd  
Suite 2030, Altamonte Springs, Florida 32701  
Tel: +1-800- 649- 4944  
Fax: +1-(407) 862 6400  
E-mail: [NorthAmerica@haifa-group.com](mailto:NorthAmerica@haifa-group.com)

##### **Other Countries Importer**

##### **Supplier/Manufacturer:**

Haifa Chemicals Ltd.  
P.O.Box 15011, Matam- Haifa, 31905, Israel  
Tel: 972-74-7373737  
Fax: 972-74-7373733  
E-mail: [Regulatory@haifa-group.com](mailto:Regulatory@haifa-group.com)

**E-mail address of person responsible for this SDS:** [Regulatory@haifa-group.com](mailto:Regulatory@haifa-group.com)

### **1.4 Emergency telephone number**

**Emergency telephone number (with hours of operation):** +972-74-7373737

CHEMTREC (U.S.): 1-800-424-9300

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## **SECTION 2: Hazards identification**

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### **2.1 Classification of the substance or mixture**

Classification according to GHS:

Oxid. Solid 3 H272  
Acute Tox. 4 H302  
Eye Dam. 1 H318

Classification according to 29 CFR 1910.1200 (OSHA HCS):

Oxid. Solid 3 H272  
Acute Tox. 4 H302  
Eye Dam. 1 H318

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP):

Oxid. Solid 3 H272  
Acute Tox. 4 H302  
Eye Dam. 1 H318

See section 16 for the full text of the H-statements declared above.

**2.2 Label elements**

Labelling according to GHS:

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H272: May intensify fire; oxidizer.  
H302: Harmful if swallowed.  
H318: Causes serious eye damage.

Precautionary Statement(s):

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P220: Keep away from clothing and other combustible materials.  
P378: Use water spray to extinguish.  
P264: Wash hands thoroughly after handling.  
P330: Rinse mouth.  
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/ physician.  
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

Labelling according to 29 CFR 1910.1200 (OSHA HCS)

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H272: May intensify fire; oxidizer.  
H302: Harmful if swallowed.  
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Precautionary Statement(s):

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P220: Keep away from clothing and other combustible materials.  
P378: Use water spray to extinguish.  
P264: Wash hands thoroughly after handling.  
P330: Rinse mouth.  
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310: Immediately call a POISON CENTER or doctor/ physician.  
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

Labelling in accordance with Regulation 1272/2008 (CLP)

Hazard pictogram(s):



Signal word: Danger

Hazard statement(s):

H272: May intensify fire; oxidizer.  
 H302: Harmful if swallowed.  
 H318: Causes serious eye damage.

Precautionary Statement(s):

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P220: Keep/store away from clothing /combustible materials.  
 P370+P378: In case of fire: Use water for extinction.  
 P264: Wash hands thoroughly after handling.  
 P330: Rinse mouth.  
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310: Immediately call a POISON CENTER or doctor/ physician.  
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

**2.3 Other hazard**

Not available

**2.3 Other hazard**

Not available

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**SECTION 3: Composition/information on ingredients**

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**3.1 Substances:**

Substance name	Identifiers	%	Classification		
			GHS	OSHA HCS	CLP
Calcium nitrate (anhydrous)	CAS number: 10124-37-5 EC number: 233-332-1 REACH No.: 01-2119495093-35	min. 96	Ox. Sol. 3 H272 Acute Tox. 4 H302 Eye Dam. 1 H318	Ox. Sol. 3 H272 Acute Tox. 4 H302 Eye Dam. 1 H318	Ox. Sol. 3 H272 Acute Tox. 4 H302 Eye Dam. 1 H318

See section 16 for the full text of the H-statements declared above.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in section 8.**

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## **SECTION 4: First aid measures**

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### **4.1 Description of first aid measures**

- Eyes contact:** In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
- Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Get medical attention.
- Inhalation:** Remove the victim from site of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. Get medical attention.
- Ingestion:** **Do not induce vomiting.** If victim is conscious, wash mouth thoroughly with plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical attention. Give activated carbon, in order to reduce the resorption in the gastro-enteric tract.

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

Eye contact: eye irritation (redness).

Ingestion: abdominal pain, confusion, convulsions, dizziness, headache, nausea, unconsciousness.

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

Not available

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## **SECTION 5: Fire-fighting measures**

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### **5.1 Extinguishing media**

Suitable: Water spray.

Not suitable: Dry extinguishing powder, foam, sand, water steam.

### **5.2 Special hazards arising from the substance or mixture**

Non-combustible. Enhances of other substances, keep away from combustible materials. Hazardous thermal decomposition products: Under fire emits oxides of nitrogen.

### **5.3 Advice for firefighters**

**Special protective equipment for fire fighters:** Fire fighters should wear full protective clothing, including rubber boots and rubber gloves, and self-contained breathing apparatus in positive pressure mode.

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## **SECTION 6: Accidental release measures**

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

Use personal protective equipment. Remove all sources of ignition. Avoid contact with skin and eyes. Ensure adequate ventilation. Ventilate area of spill. Keep unprotected persons away.

### **6.2 Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas.

### **6.3 Methods and materials for containment and cleaning up**

Use a tool to scoop up solid material and place into an appropriate labeled waste container. Do not mix with sawdust or other combustible material. Avoid creating dusty conditions and prevent wind dispersal. Keep out of waterways.

Large spill: As for small spill

**6.4 Reference to other sections**

See Section 1 for emergency contact information.

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**SECTION 7: Handling and storage**

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**7.1 Precautions for safe handling**

Avoid creating dusty conditions and prevent wind dispersal. Do not breathe dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

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

**Storage:** Store and use away from heat, sparks, open flame or any other ignition source. Keep containers tightly closed, in a dry, cool, clean and well ventilated place. Do not store together and precaution to avoid mixing with combustible materials, reducing agents. Separate from foodstuffs. Packaging material (bags): polypropylene.

**7.3 Specific end use(s):** Intended for the use in the agricultural sector, as a fertilizer, in oil industry and other branches of industry.

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**SECTION 8: Exposure control/personal protection**

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**8.1 Control parameters**

Occupational exposure limit values: N/A

Derived effects levels:

Recommended occupational and consumer exposure limit values (following from the preformed CSA):

Calcium nitrate:

Exposure pattern	Derived No Effect Level (DNEL)	
	Workers	General population
Oral	N/A	8.33 mg/kg bw/day
Dermal	13.9 mg/kg bw/day	8.33 mg/kg bw/day
Inhalation	24.5 mg/m <sup>3</sup>	6.3 mg/m <sup>3</sup>

**8.2 Exposure controls**

Engineering measures

Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Person Protective measures

Respiratory protection: Disposable particulate mask. Be sure to use an approved/certified equipment or equivalent equipment. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear protective rubber gloves to prevent skin exposure.

Eye protection: Wear protective safety goggles.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Do not empty into drains or the aquatic environment.

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## **SECTION 9: Physical and chemical properties**

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### **9.1 Information on basic physical and chemical properties**

Appearance: solid, granulated, color: from white to grayish-yellow

Odour: odorless

Odour threshold: not determined

pH: 6.0 (5% solution)

Melting point/freezing point: c.a. 560°C (Calcium nitrate)

Initial boiling point/boiling range: not applicable (solid, melting point >300°C)

Flash point: not applicable (solid, inorganic)

Evaporation rate: not applicable

Flammability: not flammable (based on structure)

Upper/lower flammability or explosive limits: not applicable (non-flammable)

Vapor pressure: not applicable (melting point >300°C)

Vapor density: no data available

Relative density: 2.5 (Calcium nitrate)

Solubility(ies): water solubility: >10000 mg/l (Calcium nitrate)

Partition coefficient Octanol/Water: not applicable (inorganic)

Auto-ignition temperature: not applicable (based on structure)

Decomposition temperature: no data available

Viscosity: not applicable (solid)

Explosive properties: non explosive (based on structure)

Oxidizing properties: Oxid. Solid 3: May intensify fire; oxidizer.

### **9.2 Other information**

Not available

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## **SECTION 10: Stability and reactivity**

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### **10.1 Reactivity**

Not available

### **10.2 Chemical stability**

The product is stable under normal handling and storage conditions described in Section 7.

### **10.3 Possibility of hazardous reactions**

Hazardous reactions are not expected, under normal conditions of storage and use.

As the solid calcium nitrate decomposes on heat and enhances combustion of other substances, it has potential explosion hazard under fire conditions when severely confined and/ or contaminated with combustible materials.

### **10.4 Conditions to avoid**

Excess heat and pollution by incompatible substances.

### **10.5 Incompatible materials**

Combustible materials, reducing agents.

### **10.6 Hazardous decomposition products**

Other decomposition products: not available

In the event of fire: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity:

Product/substance name	Test	Species	Dose
Calcium nitrate	LD50, Oral	Rat	>300 - <2000 mg/kg
	LD50, Dermal	Rat	>2000 mg/kg

Skin corrosion/irritation: Not irritating.

Serious eye damage/irritation: Irritating.

Respiratory or skin sensitization: Not sensitizing.

Germ cell mutagenicity: Negative.

Carcinogenicity: No carcinogenicity study needs proposed as calcium nitrate is not genotoxic.

#### Reproductive toxicity:

No reliable study with calcium nitrate is present. In a reliable OECD screening study in rats with potassium nitrate no effects were found up to the highest dose tested (1500 mg/kg bw/d). In addition, in repeated dose studies with potassium nitrate and Nitcal-K no effects on reproduction organs were found. Calcium nitrate dissociates into Ca<sup>2+</sup> and nitrate ions. Nitrates are regulated within the body. Ca<sup>2+</sup> is also a necessary element of which the accepted daily dose is 1-2.5 g/day (Dutch Voedingscentrum). Together with the available data showing no effects, an additional study is therefore not considered necessary. The overall conclusion for calcium nitrate is that the substance may present a hazard to fertility but only at parentally toxic doses, no evidence that the substance may present a risk for developmental toxicity.

Specific target organ toxicity (single exposure): Not available

Specific target organ toxicity (repeated exposure): Not available

Aspiration hazard: Not available

#### Toxicokinetics:

In aqueous environments, such as the body the calcium nitrate is completely dissociated into the calcium (Ca<sup>2+</sup>) and the nitrate (NO<sub>3</sub><sup>-</sup>) ions.

Nitrate is reduced to nitrite by the enzyme nitrate reductase. This enzyme is found in plants, certain bacterial species, and mammalian gastric tissues. After ingestion, nitrates are reduced to nitrites by bacteria in the lower intestine of the adult. However, in babies, which have a physiological gastric achlorhydria (lack of HCl in the stomach), the reduction occurs in the stomach and duodenum from which the nitrites are readily absorbed into the blood stream. Furthermore, methemoglobin-reductase (NADH-cytochrome b5 reductase) in infants has not yet reached full activity. After absorption, nitrites convert oxyhemoglobin into methemoglobin and thus interfere with oxygen transport in the blood, resulting in methemoglobineamia ("blue baby syndrome"). Nitrites can also cause vasodilation, which, like methemoglobineamia, is dose-related.

The calcium cation is an essential ion, and is present in the blood and various body fluids, playing an important role in sustaining health. The Dutch Voedingscentrum does set an acceptable daily intake of 1000 -2500 mg calcium/day.

Based on low MW, high water solubility, assumed low logPow high absorption is expected. However, the ion formation of the substance immediately when in contact with a fluid decreases the absorption. Therefore, 50% absorption is taken for oral, dermal and inhalation exposure.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product /ingredient name	Toxicity to algae	Toxicity to fish	Toxicity to crustaceans
Calcium nitrate	EC50/10d (Algae) > 1700 mg/l	LC50/96h (Fish) 1378 mg/L (Potassium nitrate)	EC50/48h (Aquatic invertebrates) 490 mg/l (Potassium nitrate)

Predicted effect concentrations:

Product/substance name	Type	Compartment Detail	Value	Assessment Factors
Calcium nitrate	PNEC	Fresh water	0.45 mg/l	1000
	PNEC	Marine	0.045 mg/l	10000

### 12.2 Persistence and Degradability

Readily biodegradable in plants and soils (nitrates). In aqueous solution, the substance is dissociated.

### 12.3 Bioaccumulative potential

Low bioaccumulation potential.

### 12.4 Mobility in soil

Low adsorption potential.

This product may move with surface or groundwater flows because its solubility is: >10 000 mg/L.

### 12.5 Results of PBT and vPvB assessment

Not relevant (inorganic).

### 12.6 Other adverse effects

Not available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

#### Packing

Empty containers should be taken for local recycling, recovery or waste disposal.

## SECTION 14: Transport information

### 14.1 Un number

ADR/RID: 1454

IMDG: 1454

IATA: 1454

DOT (US): 1454

### 14.2 UN proper shipping name

ADR/RID: CALCIUM NITRATE

IMDG: CALCIUM NITRATE

IATA: Calcium nitrate

DOT (US): Calcium nitrate



**14.3 Transport hazard class(es)**

ADR/RID: 5.1                      IMDG: 5.1                      IATA: 5.1                      DOT (US): 5.1

**14.4 Packing group**

ADR/RID: III                      IMDG: III                      IATA: III                      DOT (US): III

**14.5 Environmental hazard**

Marine Pollutant: N/A

**14.6 Special precautions for user**

Not available

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

Not available

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**SECTION 15: Regulatory information**

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This SDS complies with the following requirements of:

EU Regulation (EC) No.1907/2006 (REACH) including amendments

Regulation (EC) No.1272/2008 (CLP)

29 CFR 1910.1200 (OSHA HCS)

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA inventory

Listed

**15.2 Chemical safety assessment**

Chemical Safety Assessment has been carried out for Calcium nitrate.

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**SECTION 16: Other information**

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**Full text of Hazards Statements referred to in sections 2 and 3:**

Acute Tox. – Acute toxicity

Oxid. Solid – Oxidizing solid

Eye Dam. – Eye damage

H272: May intensify fire; oxidizer.

H302: Harmful if swallowed.

H318: Causes serious eye damage.

Training advice: Before using/handling the product one must read carefully present SDS.

Key Legend Information:

CAS - Chemical Abstract Service

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NTP - National Toxicology program

IARC - International Agency for Research on Cancer

N/A - Not available

H - statements- Hazard statements



**Haifa**  
**SAFETY DATA SHEET**

TLV - Threshold Limit Value  
TWA - Time-weighted average  
STEL - Short-Term Exposure Limit  
CSA - Chemical safety assessment  
SCL - Specific concentration limit

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