

Prepared in accordance with Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, February 2016)

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

### 1.1. Product identifier

Trade name: CALMAG Agent

Synonym(s): -

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

Liquid calcium-magnesium fertilizer.

#### Product

category: Chemical Product Category 12 (PC12 Fertilizers).

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

#### Manufacturer/supplier:

#### For Australia:

CANNA Australasia Pty Ltd  
PO Box 1816,  
Subiaco WA 6904 Australia  
Phone: 1800 422 662 / +61 (0)8 9217 4400

#### For New Zealand:

CANNA Australasia Pty Ltd  
PO Box 158,  
Auckland 1140, New Zealand  
Phone: 0800 422 662 / +61 (0)8 9217 4400

#### Further information obtainable from:

Contact person: N. Linton  
Tel.: +31 (0) 162-68 00 12  
Email: msds@canna.com  
Working hours  
(business days): 09:00-17:00.

### 1.4. Emergency telephone number

Australia : Poisons Information Centre 13 11 26  
New Zealand: National Poisons Centre 0800 764 766

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification in accordance with GHS, 7th Revised Edition

Eye Dam. 1 H318

### 2.2. Label elements

Hazards pictograms:



Signal word: Danger.

Hazard statements:

H318 Causes serious eye damage.

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**Trade name: CALMAG Agent****Precautions:**

- P102 Keep out of reach of children.  
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/doctor.

**Hazard-determining components for****labelling:** Calcium nitrate tetrahydrate,  
calcium diformate.**2.3. Other hazards**

Avoid inhalation of mists.

**Results of PBT and vPvB assessment****PBT:** No.  
**vPvB:** No.

## SECTION 3: Composition/information on ingredients

**3.1. Substances**

Not applicable.

**3.2. Mixtures****Description:** Preparation based on i.a. water, calcium nitrate tetrahydrate, calcium diformate, calcium chloride, and nitric acid.**Hazardous ingredients or substances with an exposure limit****Calcium nitrate tetrahydrate**

CAS#: 13477-34-4  
EC#: 603-865-8  
Index#: -  
REACH reg.#: 01-2119495093-35 (ref. calcium nitrate)  
Concentration (W/W):  
5 - 10 %

Danger,  
1272/2008/EC: Acute Tox. 4; H302 - Eye Dam. 1; H318.

**Calcium diformate**

CAS#: 544-17-2  
EC#: 208-863-7  
Index#: -  
REACH reg.#: 01-2119486476-24  
Concentration (W/W):  
5 - 10 %

Danger,  
1272/2008/EC: Eye Dam. 1; H318.

**Calcium chloride**

CAS#: 10043-52-4  
EC#: 233-140-8  
Index#: 017-013-00-2 (reference CLP00).  
REACH reg.#: 01-2119494219-28  
Concentration (W/W):  
1 - 5 %

Danger,  
1272/2008/EC: Eye Irrit. 2; H319.

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**Trade name: CALMAG Agent****Nitric acid 38 %**

CAS#: 7697-37-2

EC#: 231-714-2

Index#: 007-004-00-1 (reference CLP00/ATP07).

REACH reg.#: 01-2119487297-23

Concentration (W/W):

1 - &lt; 5 %

Danger (100 %),

1272/2008/EC: Ox. Liq. 2; H272 - Skin Corr. 1A; H314

Supplier: Met. Corr. 1; H290 - Acute Tox. 3; H331 (additional classification, reference registration dossier).

Note: Specific concentration limits:

- Ox. Liq. 2; H272:  $C \geq 99 \%$ ;- Ox. Liq. 3; H272:  $65 \% \leq C < 99 \%$ ;- Skin Corr. 1A; H314:  $C \geq 20 \%$ ;- Skin Corr. 1B; H314:  $5 \% \leq C < 20 \%$ .

Note: Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations.

**Full text of each relevant H- phrase(s) can be found in section 16.**

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information:**

Remove victim from danger zone and place in lying position.

**Inhalation:**

Remove the victim into fresh air, and keep at rest in a position that facilitates breathing.

If the victim is not breathing, apply artificial respiration.

**Skin contact:**

Immediately wash with plenty of water and soap.

**Eye contact:**

Remove contact lenses, if present, and immediately rinse eyes while holding eyelids open for a sufficient period of time (at least 15 minutes) with lukewarm water. Help the victim with the rinsing process. Do not use neutralizing liquids. Then immediately consult a physician/ophthalmologist.

**Ingestion:**

Rinse mouth immediately with water (if conscious), and then drink plenty of water. Do not induce vomiting (only under the supervision of a physician) and immediately consult a physician or take victim to hospital (show physician packaging, label or SDS). Place unconscious person on the side in the recovery position. Loosen tight clothing such as a shirt collar, tie, belt or waistband. Keep at rest.

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

**Inhalation:**

Exposure to vapour concentrations of component dusts higher than the MAC value can be harmful to the health.

Potential health effects include: sore throat, cough, difficulty breathing, breathlessness. Effects may be delayed.

Prolonged inhalation of aerosol and/or mist may cause pneumonia and/or lung oedema, but only after initial corrosive effects on the mucous membranes of the eyes and/or upper airways have become manifest.

**Skin contact:**

Slightly irritating to the skin. Signs and symptoms of skin irritation may include redness.

**Eye contact:**

May cause irreversible damage to the eyes. Redness. Pain.

**Ingestion:**

Nausea, vomiting, blue lips or nails, blue skin, headache, dizziness, weakness, abdominal pain, burning, bloody vomiting and / or diarrhoea, severe fall in blood pressure, unconsciousness.

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

Symptomatic treatment and supportive therapy as prescribed. Symptomatic treatment (decontamination, control of vital functions). No specific antidote known. To prevent pulmonary oedema from severe exposure: corticosteroid-containing dosing aerosol.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media:**

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water spray.

Foam.

Sand.

Adapt extinguishing measures to suit the environment.

**Unsuitable extinguishing media:**

Powerful water jet.

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

During heating or in case of fire, poisonous gases may be produced.

May be released in event of fire:

Nitrogen oxides (NO<sub>x</sub>).

### 5.3. Advice for firefighters

**Special protective clothing:**

Wear self-contained breathing apparatus.

**Other information:**

No specific requirements.

## SECTION 6: Accidental release measures

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

Ensure sufficient ventilation.

Wear personal protective equipment.

Keep unprotected persons at a distance.

### 6.2. Environmental precautions

Do not allow large quantities of product to reach sewage/surface water/groundwater in concentrated form.

Notify competent authorities in case of release of large quantities into the environment.

### 6.3. Methods and material for containment and cleaning up

Soak up immediately with absorbent material (sand, dry earth).

Recycle, if possible.

Collect in suitable containers for disposal.

Then flush away residue with plenty of water.

### 6.4. Reference to other sections

Information regarding safe handling – see section 7.

Information regarding personal protective equipment – see section 8.

Information regarding disposal – see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling:**

Provide adequate ventilation/extraction in the workplace.

Shake well before use.

Open and handle package with care.

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Avoid formation of aerosols.  
When diluting always add acid to water, never the other way around.  
**Information about fire - and explosion protection:**  
No specific requirements.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage:

Close containers after each use.  
Handle empty containers as if they were full.  
**Requirements to be met by storerooms and receptacles:**

Keep only in the original container.  
Keep in a dark place.  
Store in a frost-free environment.  
Protect from heat and direct sunlight.  
Suitable packaging material: Polyethylene.  
Suitable material for tanks and pipelines: Stainless steel, PVC.  
**Information about storage in one common storage facility:**  
Install partitions in the drip tray to prevent acidic and alkaline fertilisers from coming into contact with one other.  
**Further information about storage conditions:**  
Keep tanks / packing hermetically closed.  
Keep in a cool place.  
Recommended storage temperature 4 - 30 °C.

### 7.3. Specific end use(s)

No further relevant information available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Ingredients with limit values that require monitoring at the workplace:		
Product information: 10043-52-4	Calcium chloride	
TWA 15 min.	mg/m <sup>3</sup> (ppm)	2 (-) Latvia 5 (-) Canada
Product information: 7697-37-2	Nitric acid	
TWA 15 min.	mg/m <sup>3</sup> (ppm)	2.6 (1) 2006/15/EC

Dangerous ingredients with DN(M)EL:				
Product information: 13477-34-4 Ref. calcium nitrate	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population

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				Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	General population Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Short-term oral	1000	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	General population Local

**Dangerous ingredients with DN(M)EL:**

Product information: 544-17-2 Calcium diformate	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	16.7	mg/cm <sup>2</sup>	Workers Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Long-term dermal	4780	mg/kg bw/day	Workers Systemic
DN(M)EL	Short-term dermal	4780	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	337	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Short-term inhalation	337	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Long-term dermal	16.7	mg/cm <sup>2</sup>	Workers Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Short-term dermal	2390	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	83.2	mg/m <sup>3</sup>	General population Local
DN(M)EL	Short-term	-	mg/m <sup>3</sup>	General

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**Trade name: CALMAG Agent**

	inhalation			population Systemic
DN(M)EL	Short-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	2390	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	83.2	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Long-term oral	23.9	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	8.3	mg/cm <sup>2</sup>	General population Local
DN(M)EL	Long-term dermal	8.3	mg/cm <sup>2</sup>	General population Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	General population Local

**Dangerous ingredients with DN(M)EL:**

Product information: 10043-52-4 Calcium chloride	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Short-term inhalation	5	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	General population Local
DN(M)EL	Short-term inhalation	2.5	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Short-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term	-	mg/m <sup>3</sup>	General

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	inhalation			population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	General population Local

**Dangerous ingredients with DN(M)EL:**

Product information: 7697-37-2 Nitric acid	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	2.6	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	1.3	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	Workers Local
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	1.3	mg/m <sup>3</sup>	General population Local
DN(M)EL	Short-term inhalation	-	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Short-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	-	mg/m <sup>3</sup>	General population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term	-	mg/kg bw/day	General



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	dermal			population Local
DN(M)EL	Long-term inhalation	0.65	mg/m <sup>3</sup>	General population Local

**Hazardous ingredients with PNEC:**

Product information: 13477-34-4 Ref. calcium nitrate	Value	Unit	Compartment
PNEC	-	mg/l	Fresh water
PNEC	-	mg/l	Marine water
PNEC	-	mg/l	Intermittent releases
PNEC	18	mg/l	STP (sewage treatment plant)
PNEC	-	mg/kg dwt	Sediment fresh water
PNEC	-	mg/kg dwt	Sediment marine water
PNEC	-	-	Air
PNEC	-	mg/kg wwt	Soil
PNEC	No bio- accumulation potential	mg/l	Oral

**Hazardous ingredients with PNEC:**

Product information: 544-17-2 Calcium diformate	Value	Unit	Compartment
PNEC	2	mg/l	Fresh water
PNEC	0.2	mg/l	Marine water
PNEC	10	mg/l	Intermittent releases
PNEC	2.21	mg/l	STP (sewage treatment plant)
PNEC	13.4	mg/kg dwt	Sediment fresh water
PNEC	1.34	mg/kg dwt	Sediment marine water
PNEC	-	-	Air
PNEC	1.5	mg/kg wwt	Soil
PNEC	-	mg/l	Oral

## 8.2. Exposure controls

**Personal protective equipment:**

Remove immediately all contaminated clothing.

Store protective clothing separately.

Avoid contact with the eyes and skin.

**General protective and hygienic measures:**

Keep away from foodstuffs and beverages.

Do not eat, drink or smoke when using this product.

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:**

No specific requirements, normal ventilation is sufficient.

**Hand protection:**



Safety gloves.

Wear protective gloves if prolonged skin contact may occur (EN 374), with prolonged or repeated contact, use gloves: (e.g. for penetration time > 480 minutes, level 6, fluoropolymer - viton (0.7 mm), butyl rubber (0.7 mm), PVC (0.7 mm), nitrile rubber (0.4 mm), chloroprene - neoprene (0.5 mm)). Contaminated gloves should be replaced. Do not rub eyes with dirty hands.

**Glove material**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Penetration time of glove material**

The exact breakthrough time can be obtained from the manufacturer of the protective gloves and has to be observed.

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**Eye protection:**



Tight fitting safety goggles (EN 166). Eye shower. Full facemask with splash/spatter risk.

**Body protection:**

Wear suitable protective work clothing (in case of splash risk e.g. EN13034 type PB [6]).

**Measuring procedures:**

In order to establish compliance with an exposure limit and to establish that exposure is properly controlled, it may be necessary to determine the concentration of the substances in the inhalation zone or in the general workspace.

**Environmental exposure controls:**

Leakage of the material and concentrated solution must be stopped.

## SECTION 9: Physical and chemical properties

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

**General information**

**Appearance**

<b>Form:</b>	Liquid.
<b>Colour:</b>	Colourless.
<b>Odour:</b>	No odour.
<b>Odour threshold:</b>	Not determined.
<b>pH-value</b>	3.5.

**Change in condition**

<b>Melting point/freezing point:</b>	Not determined.
<b>Initial boiling point and boiling range:</b>	Not determined.

**Flash Point:** > 93 °C.

**Evaporation rate:** Not determined.

**Flammability (solid, gas):** Not applicable.

**Explosive limits**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**Vapour pressure:** Not determined.

**Relative density:** 1.14 (water = 1).

**Vapour density:** Not determined.

**Solubility(ies):** Fully miscibility with water.

**Partition coefficient**

**n-octanol/water:** Not determined.

**Auto-ignition temperature:** Not determined.

**Decomposition temperature:** Not determined.

**Viscosity**

**Dynamic:** Not determined.

**Kinematic:** Not determined.

**Explosive properties:** Not determined.

**Oxidising properties:** Not classified.

**9.2. Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No decomposition if used as prescribed.

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### 10.2. Chemical stability

The product is stable if stored and handled as prescribed.

#### Thermal decomposition/Conditions to be avoided:

The product is stable if used as prescribed. Avoid storing at high temperatures (> 30 °C) to prevent degradation of the material or pressure build-up. Avoid low temperatures (< 4 °C) to prevent crystallization from occurring. Material is susceptible to frost.

### 10.3. Possibility of hazardous reactions

Contact with strong reducing agents (and bases).

### 10.4. Conditions to avoid

Avoid heat, sparks, open flames, and other sources of ignition. Prevent evaporation in a non-ventilated environment. Protect against heat and direct sunlight. Protect against frost.

### 10.5. Incompatible materials

Mildly corrosive for metals.

### 10.6. Hazardous decomposition products

No hazardous decomposition products are formed if stored under normal conditions. In case of heating or fire, irritating and/or toxic vapours such as nitrogen oxides may be released.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity from the components:

LD/LC50 values relevant for classification (> 0.1 %):		
Product information: 13477-34-4	Ref. calcium nitrate	
Oral	LD50	300 mg/kg (rat) (OECD 423)
Inhalation	LC50	-
Dermal	LD50	2000 mg/kg (rat) (OECD 402)
Product information: 544-17-2	Calcium diformate	
Oral	LD50	3050 mg/kg (rat) (OECD 401)
Inhalation	LC50 (4 u)	> 0.67 mg/l (rat) (EPA OTS 798.1150)
Dermal	LD50	> 2000 mg/kg (rat) (OECD 402)
Product information: 10043-52-4	Calcium chloride	
Oral	LD50	2301 mg/kg
Inhalation	LC50	-
Dermal	LD50	5000 mg/kg
Product information: 7697-37-2	Nitric acid	
Oral	LD50	430 mg/kg (human)
Inhalation	LC50 (4 u)	> 80 mg/l (rat) (OECD 403)
Dermal	LD50	-

The following health risk assessment is based on an assessment of the various ingredients in the product.

#### Primary irritant effect:

##### on the skin:

Irritates the skin and the mucous membranes.

##### on the eye:

Irritant / corrosive effect.

#### Germ cell mutagenicity:

Not classified.

#### Reproductive and developmental toxicity:

Not classified.

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**Sensitisation:**

Not classified. Contains sensitising ingredients.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

Not classified.

**Other information:**

No further relevant information available.

## SECTION 12: Ecological information

### 12.1. Toxicology information

**Ecotoxicity from the components:**

<b>Aquatic toxicity (&gt; 0.1 %):</b>		
Product information: 13477-34-4	Ref. calcium nitrate	
Fish	LC100 (96 u)	> 100 mg/l (oncorhynchus mykiss) (OECD 203)
Water flea	EC50 (96 u)	> 100 mg/l (daphnia magna)
Algae	EC50	> 100 mg/l
Bacteria	EC50 (3 u)	> 1000 mg/l (activated sludge) (OECD 209)
Product information: 544-17-2	Calcium diformate	
Fish	LC0 (96 u)	> 1000 mg/l (danio rerio)
Water flea	EC50 (48 u)	> 1000 mg/l (daphnia magna) (EPA-660/3-75-009)
Algae	EC50 (72 u)	> 1000 mg/l (desmodesmus subspicatus)
Bacteria	NOEC (28 d)	≥ 22.1 mg/l (OECD 306)
Product information: 10043-52-4	Calcium chloride	
Fish	LC50 (96 u)	4630 mg/l (pimephales promelas) (EPA/600/4-90/027)
Water flea	EC50 (48 u)	2400 mg/l (daphnia magna) (OECD 202)
Algae	EC50 (72 u)	> 4000 mg/l (pseudokirchneriella subcapitata) (OECD 201)
Bacteria	NOEC	20000 mg/l (activated sludge)
Product information: 7697-37-2	Nitric acid	
Fish	LC100 (96 u)	3 - 3.5 mg/l (bluegill sunfish)
	LC50 (96 u)	> 100 mg/l
Water flea	EC50 (96 u)	490 mg/l (daphnia magna)
	EC50 (48 u)	180 mg/l (daphnia magna)
Algae	EC50	-
Bacteria	EC50	-

The following ecological risk assessment is based on an assessment of the various ingredients in the product.

### 12.2. Persistence and degradability

Partially inorganic and presumed to be partially biodegradable over the long-term.

### 12.3. Bioaccumulative potential

Bioaccumulation in organisms is not expected.

### 12.4. Mobility in soil

No further relevant information available.

### Further ecological information

**General information:**

Water hazard class 1 (German regulation) (Self-assessment): slightly hazardous to water. Do not discharge undiluted product into groundwater, surface water or sewage system.

### 12.5. Results of PBT and vPvB assessment

The mixture does not meet all of the assessment criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

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### 12.6. Other adverse effects

Contains substances that contribute to eutrophication: Nitrates

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Recommendation:**

May be brought to a supervised incineration plant in compliance with local regulations.

**EC Regulation for Disposal of Waste (EWC):**

06 10 02\* WASTES FROM INORGANIC CHEMICAL PROCESSES, wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture; waste containing dangerous substances.

**Uncleaned packaging**

**Recommendation:**

Disposal must be made according to official regulations. Empty the packaging with care. Do not contaminate soil, water or environment with the waste container. Comply with local regulations with regard to the recovery or disposal of waste.

## SECTION 14: Transport information

### Land transport ADR/RID (cross-border)

ADR/GGVSEB class: Not a dangerous good according to the transport regulations.  
Hazard identification number: -  
UN number: -  
Packing group: -  
Label: -  
Special marking: -  
Proper shipping name from the  
UN Model Regulations: -  
Tunnel restriction code: -

### Inland shipping ADN/ADR

ADN/R-class: -  
UN number: -  
Subsidiary risk  
Environmental hazards: -  
CMR properties: -  
Buoyancy: -

### Maritime transport IMDG

IMDG-class: -  
UN number: -  
Label: -  
Packing group: -  
EMS number: -  
Marine pollutant: -  
Proper technical name: -

### Air transport ICAO-TI and IATA-DGR

ICAO/IATA-class: -  
UN number: -  
Label: -  
Packing group: -  
Proper technical name: -

### 14.1. UN number

-

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### 14.2. UN proper shipping name

-

### 14.3. Transport hazard class(es)

-

### 14.4. Packing group

-

### 14.5. Environmental hazards

-

### 14.6. Special precautions for user

-

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

No further relevant information available.

## SECTION 15: Regulatory information

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

#### National regulations:

*Agricultural and Veterinary Chemicals Act 1988* (Commonwealth)- Australia  
Fertilisers (Subsidiary Hazard) Group Standard 2017 - HSR002571 – New Zealand  
New Zealand Inventory of Chemicals (NZIoC)

#### EU regulations and directives which affect this mixture (not yet directly or indirectly mentioned):

Directive 89/686/EEC Personal protective equipment (< 21.04.2023).  
Directive 98/24/EC Risks related to chemical agents at work.  
Regulation 2003/2003/EC Concerning fertilisers.  
Regulation (EC) 2008/1272 On classification, labelling and packaging of substances and mixtures.  
Note B: Nitric acid 1.3%.  
Regulation (EU) 2015/830 Commission regulation 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).  
Regulation (EU) 2016/425 On personal protective equipment.

### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

## SECTION 16: Other information

This information is based on the current state of our knowledge. It should not be construed as any guarantee of product characteristics, nor does it establish a legally valid contractual relationship.

#### List of relevant H- and EUH-phrases from sections 2 and 3

H272 May intensify fire; oxidiser.  
H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.

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H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
Acute Tox. Acute toxicity.  
Eye Dam. Serious eye damage.  
Eye Irrit. Serious eye irritation.  
Met. Corr. Substance or mixture corrosive to metals.  
Ox. Liq. Oxidising liquid.  
Skin Corr. Skin corrosion.

Note: -

Classification according to Regulation (EC) No

1272/2008: The CLP classification "corrosive to metals" is not applicable for the mixture, (etching reference metal steel or aluminium is << 6.25 mm / year at 55 ° C, see literature), ATE mixture > 2000 mg / kg (oral) and > 20 mg / l (vapour), other classification of the mixture based on the standard calculation method taking into account specific concentration limits.

**Document history****Printed on:** 21 September 2020.**Previous edition:**

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**Version:** 1.0.**Modification:** -**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

P: Marine Pollutant

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

EC50: Half maximal effective concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OEL: Occupational Exposure Limit

NOEC: No Observed Effect Concentration

vPvB: Very Persistent and Very Bioaccumulative

PBT: Persistent, Bioaccumulative and Toxic substance

EWC: European Waste Catalogue

TWA: Time-Weighted Average, limit value pertaining to the MAC value

DNEL: Derived No-Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No-Effect Concentration

ATE: Acute Toxicity Estimate