

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)
Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922
CD 2004/2 Page 1 of 10

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

AQUA HARD G

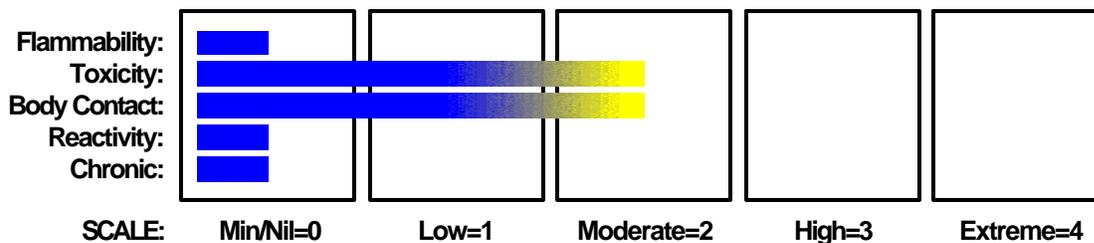
STATEMENT OF HAZARDOUS NATURE

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

SUPPLIER

Company: Andrew Limited
Address:
3 Porana Road
Glenfield
AUCKLAND
Telephone: 09 444 3733
Telephone: 0800 429 628
Emergency Tel: 0800 243 622
Fax: 09 444 3838

HAZARD RATINGS



PRODUCT USE

Used as a drying, dehydrating, desiccating agent for organic liquids, gases. Obsolescent use as refrigerant brine. Dust control for roads. De-icing fluid, freeze proofing and thawing coal, coke, stone, sand, ore. Sizing and finishing cotton fabrics; used in the paper and pulp industry. In the manufacture of fungicides. Conditioning treatment for concrete. Food Additive 509. Sequestrant in foods, firming agent in tomato canning. Anhydrous form must NOT be used as

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 2 of 10

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ...

Calcium Chloride Injection, Calcium ion.

SYNONYMS

CaCl ₂	Calplus
Caltac	Dowflake
Liquidow	Peladow
Snomelt superflake anhydrous	Mineral salt 508

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
calcium chloride	10043-52-4	>85
commercial materials may contain up to 3% sodium chloride		

Section 3 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

- 6.1D Harmful if swallowed
- 6.3B Mildly irritating to skin
- 6.4A Irritating to eyes.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 3 of 10

Section 3 - HAZARDS IDENTIFICATION ...

instillation into the eye(s) of experimental animals.

Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

SKIN

Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by inhalation of generated dust and skin contact with the material

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 4 of 10

Section 4 - FIRST AID MEASURES ...

awareness; i.e. becoming unconscious.

- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Transport to hospital or doctor without delay.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 5 of 10

Section 5 - FIRE FIGHTING MEASURES ...

- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Non combustible.
 - Not considered a significant fire risk, however containers may burn.
- Decomposition will occur at high temperatures and may produce fumes of hydrogen chloride

FIRE INCOMPATIBILITY

In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas.

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Wear impervious gloves and safety glasses.
- Use dry clean up procedures and avoid generating dust.
- Sweep up or
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Neutralise/decontaminate residue.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 6 of 10

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.

WARNING: Contact with water generates heat.

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Multi ply paper bag with sealed plastic liner or heavy gauge plastic bag

NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

STORAGE INCOMPATIBILITY

Keep dry . Segregate from strong acids

DO NOT use aluminium or galvanised containers

DO NOT USE brass or copper containers / stirrers

STORAGE REQUIREMENTS

Keep dry

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Particulates not otherwise classified

WES TWA 10 mg/m³, inspirable dust

Particulates not otherwise classified

WES TWA 3 mg/m³, respirable dust

Dusts not otherwise classified, as inspirable dust;

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

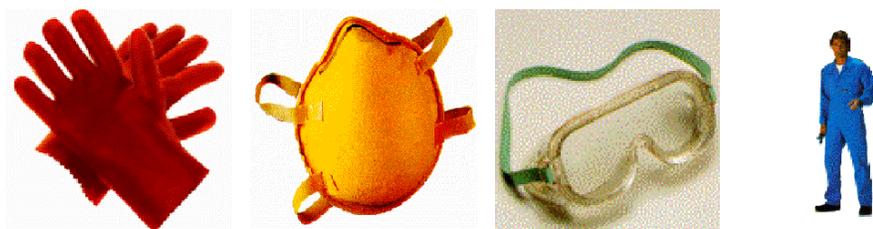
Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922
CD 2004/2 Page 7 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

ES TWA: 10 mg/m³

PERSONAL PROTECTION



EYE

- Safety glasses with side shields
- Chemical goggles.
- Full face shield.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear general protective gloves: i.e. Disposable polythene gloves or Cotton gloves or Light weight rubber gloves, with Barrier cream preferably Safety footwear.

OTHER

- Overalls.
- Eyewash unit.

ENGINEERING CONTROLS

Use in a well-ventilated area

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
 - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
 - (b): filter respirators with absorption cartridge or canister of the right type;
 - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 8 of 10

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

required to efficiently remove the contaminant.

Type of Contaminant:

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)

grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

Air Speed:

1-2.5 m/s (200-500 f/min.)

2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.

Mixes with water.

Molecular Weight: 110.99

Melting Range (°C): 772

Solubility in water (g/L): Miscible

pH (1% solution): Not available.

Volatile Component (%vol): Nil

Boiling Range (°C): >1600

Specific Gravity (water=1): 2.15

pH (as supplied): Not applicable

Vapour Pressure (kPa): Negligible

Evaporation Rate: NoN Volatile

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 9 of 10

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ...

Relative Vapour Density (air=1): Not applicable.

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not applicable

State: Divided solid

Flash Point (°C): Non flammable

Upper Explosive Limit (%): Not applicable

Decomposition Temp (°C): Not available.

APPEARANCE

Small white crystals, granules, or flakes. No odour. Soluble in water.

Solution in water accompanied by evolution of heat. Soluble in alcohol.

Material is hygroscopic, absorbs moisture from surrounding air.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

Aqua Hard G

TOXICITY

Oral (rat) LD50: 1000 mg/kg

Eye (unknown): severe*

IRRITATION

Skin (unknown): moderate*

[ICI]

Section 12 - ECOLOGICAL INFORMATION

Hazardous Air Pollutant: No

Fish LC50 (96hr.) (mg/l): 8.4 (24hr)

Refer to data for ingredients, which follows:

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

continued...

AQUA HARD G

(ChemWatch name: CALCIUM CHLORIDE)

ChemWatch Material Safety Data Sheet (REVIEW)

Issue Date: Wed 17-Oct-2001

CHEMWATCH 20922

CD 2004/2 Page 10 of 10

Section 14 - TRANSPORTATION INFORMATION

Shipping Name: NONE
Hazard Class: None
UN/NA Number: None
ADR Number:
Packing Group: None
Labels Required:
Additional Shipping Information:
International Transport Regulations:
IMO: None

Section 15 - REGULATORY INFORMATION

SAFETY

Do not breathe dust.
Avoid contact with eyes.
Wear suitable protective clothing.
To clean the floor and all objects contaminated by this material, use water.
Keep away from food, drink and animal feeding stuffs.
Take off immediately all contaminated clothing.
In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).
If you feel unwell contact Doctor or Poisons Information Centre (show the label if possible).

Section 16 - OTHER INFORMATION

NEW ZEALAND POISONS INFORMATION CENTRE
0800 POISON (0800 764 766)
NZ EMERGENCY SERVICES: 111

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: Wed 17-Oct-2001

Print Date: Tue 21-Sep-2004