

AQUA INCREASE G

(ChemWatch name: SODIUM CARBONATE)

ChemWatch Material Safety Data Sheet (REVIEW)
Issue Date: Tue 31-Dec-2002

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

AQUA INCREASE G

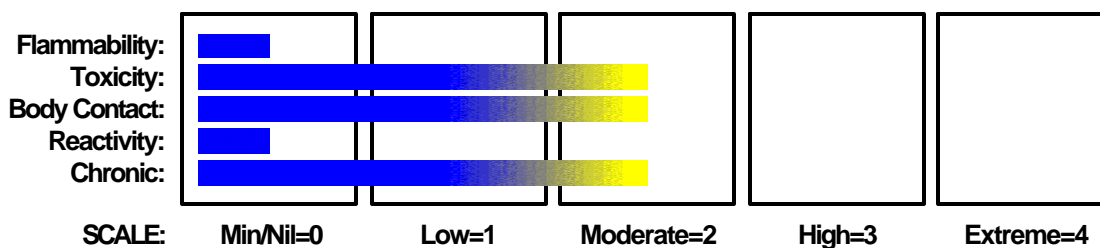
STATEMENT OF HAZARDOUS NATURE

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

Manufacture of sodium salts, glass, builder in soaps, detergents, cleaners. As a water softener; in photography; in textile bleaches; in pulp and paper manufacture; aluminium production; petroleum refining; sealing ponds from leakage; coal liquefaction catalyst; food additive.

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ...

SYNONYMS

sodium carbonate	soda ash light
carbonic acid disodium salt	soda ash dense
crystal carbonate	disodium carbonate
Trona	brysodash
Na ₂ CO ₃	soda (calcined)
calcined soda	DSA
washing soda	Deltrex
Best	Redox SOCARB50
Merck sodium carbonate anhydrous AnalaR 10240	

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium carbonate	497-19-8	> 99

Section 3 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

- 6.1D Harmful by inhalation
- 6.1E Slightly harmful if swallowed
- 6.3B Mildly irritating to skin
- 6.4A Irritating to eyes.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing

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Section 3 - HAZARDS IDENTIFICATION ...

morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

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 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

Harmful by inhalation.

The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation, of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.

CHRONIC HEALTH EFFECTS

Cumulative effects may result following exposure*.

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

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

Contact with concentrated solutions may cause tissue damage "soda ulcers"

Chronic inhalation exposure may result in nasal ulceration and/or perforation of nasal septum.

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.

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Section 3 - HAZARDS IDENTIFICATION ...

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.

If poisoning occurs, contact a doctor or Poisons Information Centre.

- 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 awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

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 dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear breathing passages.
- Ask patient to rinse mouth with water but to not drink water.
- Seek immediate medical attention.

NOTES TO PHYSICIAN

Treat symptomatically as for strong alkaline material.

Section 5 - FIRE FIGHTING MEASURES

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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 breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.

Use water delivered as a fine spray to control the fire and cool adjacent area.

FIRE/EXPLOSION HAZARD

Non combustible

Decomposes on heating and produces toxic fumes of carbon dioxide (CO₂)

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.

Use dry clean up procedures and avoid generating dust.

If product enters drains, waterways or watercourses, flush at least ten (10) times the volume of water to the drain.

Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

Clear area of personnel.

Wear protective clothing, impervious gloves and safety glasses.

Prevent, by any means available, spillage from entering drains or water courses.

Shut off all possible sources of ignition and increase ventilation.

Stop leak if safe to do so.

Use dry clean up procedures and avoid generating dust.

Collect recoverable product into labelled containers for recycling

Collect residues and seal in labelled drums for disposal

Wash spill area with large quantities of water.

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Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing dust.
Use good occupational work practice.
Avoid contact with skin and eyes.
Wear personal protective equipment when handling
When handling, DO NOT eat, drink or smoke.
Avoid contact with incompatible materials.
Avoid physical damage to containers.
Wash hands with soap and water after handling.
Launder contaminated clothing before re-use.

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 acids
DO NOT use aluminium or galvanised containers

STORAGE REQUIREMENTS

- 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

TLV TWA: 10 mg/m³ (Value for particulate matter containing no asbestos and <1% crystalline silica, Inhalable fraction) [ACGIH]

TLV TWA: 3 mg/m³ (Value for particulate matter containing no asbestos and <1% crystalline silica, Respirable fraction) [ACGIH]

Dusts not otherwise classified, as inspirable dust;

ES TWA: 10 mg/m³

OEL STEL: (Russia) 5 mg/m³

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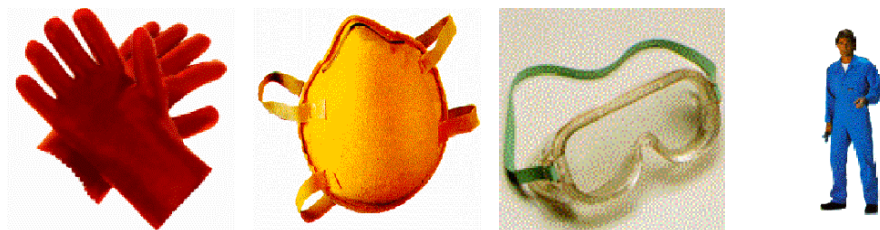
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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

PERSONAL PROTECTION



EYE

- Safety glasses with side shields; or as required,
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

- Barrier cream with polyethylene gloves
- Rubber gloves
- Neoprene gloves
- PVC gloves

OTHER

- Overalls
- Eyewash unit.

ENGINEERING CONTROLS

Use in a well-ventilated area or Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.

None required when handling small quantities.

OTHERWISE:

- 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 required to efficiently remove the contaminant.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

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)

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

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

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: 106

Melting Range (°C): 851

Solubility in water (g/L): Miscible

pH (1% solution): 11.3

Volatile Component (%vol): Not applicable

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

Lower Explosive Limit (%): Not applicable

Autoignition Temp (°C): Not applicable

Boiling Range (°C): 400 decomposes

Specific Gravity (water=1): 2.53 @ 20 C

pH (as supplied): Not applicable

Vapour Pressure (kPa): Not applicable

Evaporation Rate: Not applicable

Flash Point (°C): Not applicable

Upper Explosive Limit (%): Not applicable

Decomposition Temp (°C): >400

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ...

State: Divided solid

APPEARANCE

White hygroscopic odourless powder / granular mildly alkaline solid: mixes with water. Soluble in glycerol and slightly soluble in alcohol.

Bitter alkaline taste. On exposure to air, will gradually absorb one mole of water. Typical bulk density 60-65 lbs/cft.

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

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TOXICITY

Oral (rat) LD50: 4090 mg/kg

Inhalation (rat) LC50: 2300 mg/m³/2h

Eye (rabbit): 100 mg/30s mild

Eye (rabbit): 50 mg SEVERE

IRRITATION

Skin (rabbit): 500 mg/24h mild

Eye (rabbit): 100 mg/24h moderate

Section 12 - ECOLOGICAL INFORMATION

No data for sodium carbonate.

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.

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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.
Use only in well ventilated areas.
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

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Issue Date: Tue 31-Dec-2002

Print Date: Tue 21-Sep-2004