ALGICIDE

ChemWatch Material Safety Data Sheet
CHEMWATCH 85670
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IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

According to the Criteria of NOHSC, and ADG Code.

SUPPLIER

Company	Andrew Brands Limited
Address	3 Porana Road, Glenfield, AUCKLAND
Telephone	0800 802 626 or 09 979 3777
Emergency Telephone	0800 243 622
Fax	0800 731 770
Website	www.andrewbrands.co.nz

PERSONAL PROTECTION EQUIPMENT FOR INDUSTRIAL / COMMERICAL ENVIROMENTS

Short Gloves
Overalls
Goggles or Face Respirator

Product Name	Algicide
Other Names	Aqua Algicide

RISK
Harmful in contact with skin and if swallowed.
Irritating to the eyes.
Toxic to aquatic organisms.
May produce skin discomfort*.
Possible respiratory and skin sensitiser*.
* (limited evidence).

USE

Fungicide / algicide for swimming pools

PHYSICAL DESCRIPTION / PROPERTIES

APPEARANCE

Clear, blue liquid. Faint vinegar odour. Mixes with water.

Boiling Point	>100
Melting Point	Not available
Vapour Pressure (kPa)	Not available
Specific Gravity	0.99+/- 0.005
Flash Point (deg C)	Not applicable
Lower Explosive Limit (%)	Not applicable
Upper Explosive Limit (%)	Not applicable
Solubility in Water (g/L)	Miscible

INGREDIENTS

NAME	CAS RN	%
Algicide similar to		
Benzalkonium chloride	8001-54-5	<50
Acetic acid glacial	64-19-7	0.05
Dye		0.0005

HEALTH HAZARD

ACUTE HEALTH EFFECTS

SWALLOWED
Considered an unlikely route of entry in commercial/industrial environments The material is toxic and discomforting to the gastro-intestinal tract. Concentrated solutions of many cationics may cause corrosive damage to mucous membranes and the oesophagus. Nausea and vomiting (sometimes bloody) may follow ingestion. Serious exposures may produce an immediate burning sensation of the mouth, throat and abdomen with profuse salivation, ulceration of mucous membranes, signs of circulatory shock (hypotension, laboured breathing, and cyanosis) and a feeling of apprehension, restlessness, confusion and weakness. Weak convulsive movements may precede central nervous system depression. Erosion, ulceration, and petechial haemorrhage may occur through the small intestine with glottic, brain and pulmonary oedema. Death may result from asphyxiation due to paralysis of the muscles of respiration or cardiovascular collapse. Fatal poisoning may arise even when the only pathological signs are visceral congestion, swallowing, mild pulmonary oedema or varying signs of gastrointestinal irritation. Individuals who survive a period of severe hypertension may develop kidney failure. Cloudy swelling, patchy necrosis and fatty infiltration in such visceral organs as the heart, liver and kidneys shows at death.

EYE
The material is highly discomforting to the eyes.

SKIN
The concentrate is mildly discomforting and may be harmful if exposure is prolonged , it is absorbed by the skin and repeated exposure may cause sensitisation and/or allergic reactions Toxic effects may result from skin absorption.

INHALED
The dust is mildly discomforting to the upper respiratory tract and may be toxic if inhaled. Inhalation of dust may aggravate a pre-existing respiratory condition such as asthma, bronchitis, emphysema.

CHRONIC HEALTH EFFECTS
Principal routes of exposure are usually by inhalation of generated dust and skin contact/absorption. The very bitter taste of the concentrate is likely to give early warning of accidental ingestion. 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.

FIRST AID

SWALLOWED
If poisoning occurs, contact a doctor or Poisons Information Centre.
1. If swallowed do NOT induce vomiting.
2. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Immediately give a glass of water.

EYE
If this product comes in contact with the eyes:
1. Immediately hold eyelids apart and flush the eye continuously with running water.
2. 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.
3. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
4. Transport to hospital or doctor without delay.
5. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN
If skin contact occurs:
1. Immediately remove all contaminated clothing, including footwear
2. Flush skin and hair with running water (and soap if available).
3. Seek medical attention in event of irritation.

INHALED
If fumes or combustion products are inhaled:
1. Remove from contaminated area.
2. Lay patient down. Keep warm and rested.
3. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
4. 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.
5. Transport to hospital, or doctor.

ADVISE TO THE DOCTOR
For exposures to quaternary ammonium compounds; For ingestion of concentrated solutions (10% or higher); Swallow promptly a large quantity of milk, egg whites / gelatin solution. If not readily available, a slurry of activated charcoal may be useful. Avoid alcohol. Because of probable mucosal damage omit gastric lavage and emetic drugs. For dilute solutions (2% or less); If little or no emesis appears spontaneously, administer syrup of Ipecac or perform gastric lavage. If hypotension becomes severe, institute measures against circulatory shock. If respiration laboured, administer oxygen and support breathing mechanically. Oropharyngeal airway may be inserted in absence of gag reflex. Epiglottic or laryngeal edema may necessitate a tracheotomy. Persistent convulsions may be controlled by cautious intravenous injection of diazepam or short-acting barbiturate drugs.

[Gosselin etal, Clinical Toxicology of Commercial Products].

PRECAUTIONS FOR USE

EXPOSURE STANDARDS

None assigned. Refer to individual constituents.

INGREDIENTS DATA

BENZALKONIUM CHLORIDE:

TLV TWA: 10 mg/m³ Particulates not otherwise classified, total dust
ES TWA: 10 mg/m³ Inspirable dust

ACETIC ACID GLACIAL:

TLV TWA: 10 ppm [ACGIH] TLV STEL: 15 ppm [ACGIH]
PEL TWA: 10 ppm, 25 mg/m³ [OSHA Z1]
TLV TWA: 10 ppm, 25 mg/m³; STEL: 15 ppm, 37 mg/m³
ES TWA: 10 ppm, 25 mg/m³; STEL: 15 ppm, 37 mg/m³
OES TWA: 10 ppm, 25 mg/m³; STEL: 15 ppm, 37 mg/m³
MAK value: 10 ppm, 25 mg/m³
MAK Category I Peak Limitation: For local irritants Allows excursions of twice the MAK value for 5 minutes at a time, 8 times per shift. MAK values, and categories and groups are those recommended within the Federal Republic of Germany
Odour Threshold Value: 0.037-0.15 ppm (detection)
IDLH Level: 50 ppm
NOTE:Detector tubes for acetic acid, measuring in excess of 1 ppm, are commercially available.
Exposure at or below the TLV-TWA and TLV-STEL is thought to protect the worker against conjunctival, nose and respiratory tract irritation.

DYE:

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
Particulate (insoluble or poorly soluble *) Not .Otherwise Specified (P.N.O.C)

TLV TWA: 10 mg/m³ Inhalable particulate
TLV TWA: 3 mg/m³ Respirable particulate
OEL-Sweden, United Kingdom: 10 mg/m³ total dust, 5 mg/m³ respirable dust
These "dusts" have little adverse effect on the lungs and do not produce toxic effects or organic disease. Although there is no dust which does not evoke some cellular response at sufficiently high concentrations, the cellular response caused by P.N.O.C.s has the following characteristics: the architecture of the air spaces remain intact, scar tissue (collagen) is not synthesised to any degree, tissue reaction is potentially reversible. Extensive concentrations of P.N.O.C.s may: seriously reduce visibility, cause unpleasant deposits in the eyes, ears and nasal passages, contribute to skin or mucous membrane injury by chemical or mechanical action, per se, or by the rigorous skin cleansing procedures necessary for their removal. [ACGIH]

This limit does not apply:
to brief exposures to higher concentrations nor does it apply to those substances that may cause physiological impairment at lower concentrations but for which a TLV has as yet to be determined.

This exposure standard applies to particles which are insoluble or poorly soluble* in water (or, preferably, in aqueous lung fluid (if data is available) and have a low toxicity (i.e.. are not cytotoxic, genotoxic, or otherwise chemically reactive with lung tissue, and do not emit ionizing radiation, cause immune sensitization, or cause toxic effects other than by inflammation or by a mechanism of lung overload).
* Notice of intended change

ENGINEERING CONTROLS

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.

Type of Contaminant:	Air Speed:
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	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	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	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.

PERSONAL PROTECTION

EYES
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
Rubber gloves
Plastic gloves
Rubber boots

OTHER
Overalls.
Eyewash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half Face Respirator	Full Face Respirator
1000	10	AB-AUS P-	
1000	50		AB-AUS P-
5000	50	Airline *	
5000	100		AB-2 P-
10000	100		AB-3 P-
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

SAFE HANDLING

STORAGE AND TRANSPORT

PROCEDURES FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Observe manufacturers storing and handling recommendations.

SUITABLE CONTAINER

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers
Segregate from anionic surfactants, nitrates and strong oxidisers.

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.

TRANSPORTATION

Shipping Name	None
ARD Number	None
UN Number	None
Packing Group	None
Dangerous Goods Class	None
Subsidiary Risk	None
Hazchem Code	None
Poisons Schedule Number	AS5-NZ-
Labels Required	None

SAFETY
Do not breath gas/fumes/vapour.
Avoid contact with eyes.
Wear suitable protective clothing.
To clean the floor and all objects contaminated by this material, use water.
This material and its container must be disposed of in a safe way.
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 a 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).
Use appropriate container to avoid environment contamination.
Avoid release to the environment. Refer to special instructions/Safety data sheets.

SPILLS AND DISPOSAL

MINOR SPILLS
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS
- Minor hazard.
- Clear area of personnel.
- Alert Fire Brigade and tell them location and nature of hazard.
- Control personal contact by using protective equipment if risk of overexposure exists.
- Prevent, by any means available, spillage from entering drains or water courses.
- Contain spill/secure load if safe to do so.
- Bundle/collect recoverable product and label for recycling.
- Collect remaining product and place in appropriate containers for disposal.
- Clean up/sweep up area. Water may be required.
- If contamination of drains or waterways occurs, advise emergency services.

DISPOSAL CONSIDERATIONS
- Recycle wherever possible.
- Consult Manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise at an effluent treatment plant.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.
- 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.
- 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 to be a significant fire risk, however containers may burn.
In a fire may decompose on heating and produce toxic / corrosive fumes.
Other combustion products include , carbon dioxide (CO_2) , hydrogen chloride and nitrogen oxides (NO_x)

FIRE INCOMPATIBILITY
Avoid reaction with anionic surfactants, nitrates and strong oxidisers.

CONDITIONS CONTRIBUTING TO INSTABILITY
- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

HAZCHEM
None.

CONTACT POINT

In the event of a chemical event of a chemical incident phone **0800 243 622** for immediate assistance.

AUSTRALIAN POISONS INFORMATION CENTRE

24 HOUR SERVICE:	13 11 26
POLICE, FIRE BRIGADE OR AMBULANCE:	000

NEW ZEALAND POISONS INFORMATION CENTRE

24 HOUR SERVICE:	0800 POISON or +643 353 0199
NZ EMERGENCY SERVICES:	111

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