

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Algaecide

Other Identifier: Benzalkonium Chloride 16% Solution

Recommended Use: Algaecide for swimming pools

Supplier: Big Bubble
ABN: 51 290 656 636

Street Address: 18 Elliott Street
Midvale
Western Australia

Telephone Number: +61 08 9274 1992

Poisons Information Centre: 131 126 Australia

2. HAZARDS IDENTIFICATION

Road and Rail; Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Globally Harmonised System

Hazard Classification

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Skin irritation category 1B
Eye damage/irritation category 1

Pictogram



Name of pictogram

Corrosive

Signal Word

Danger

Hazard Statements

H302 (Harmful if swallowed)
H312 (Harmful in contact with skin)
H314 (Causes severe skin burns and eye damage)

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Precautionary Statement

Prevention

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P270 Do not eat, drink or smoke when using this product.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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/physician/first aider.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Poisons Schedule: Schedule 6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion
benzyl C12-16-alkyldimethylammonium chloride	68424-85-1	<20%
Ingredients determined not to be hazardous including water.		Up to 100%

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once.

Ingestion: 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 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 Contact: 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 Contact: Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.

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Inhalation: If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses 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, without delay. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)

Medical attention and special treatment: Treat symptomatically. For acute or short term repeated exposures to strong acids: Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially. Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling. Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise. Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION: Immediate dilution (milk or water) within 30 minutes post ingestion is recommended. DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury. Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult. Charcoal has no place in acid management. Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN: Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping. Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE: Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required. Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury. Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

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 et al, Clinical Toxicology of Commercial Products]

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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider: foam.

Hazardous combustion products:

Non combustible.
Not considered to be a significant fire risk.
Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
Heating may cause expansion or decomposition leading to violent rupture of containers.
carbon dioxide (CO₂)
hydrogen chloride
phosgene
nitrogen oxides (NO_x)

Precautions for fire fighters and special protective equipment:

other pyrolysis products typical of burning organic material.
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 firefighting procedures suitable for surrounding area.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures:

Slippery when spilt – avoid accidents. Wear protective clothing to minimise skin and eye exposure. If possible contain large spills, absorb with inert absorbent such as sand, soil or vermiculite and place in suitable, labelled containers. Mop up material and place into the same container. Hose down residues or minor spills with excess water. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

This material must be stored, maintained and used in accordance with the relevant regulations.

Conditions for safe storage:

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Containers

- DO NOT use aluminium or galvanised containers
- Check regularly for spills and leaks
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.

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- Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- Removable head packaging;
- Cans with friction closures and
- low pressure tubes and cartridges
- may be used.

Incompatible Materials

- Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.
- Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.
- Avoid strong bases.

Precautions for safe handling:

- DO NOT allow clothing wet with material to stay in contact with skin
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure control measures:

Ingredient: benzyl C12-16-alkyldimethylammonium chloride
TEEL-1: 1.3 mg/m³
TEEL-2: 14 mg/m³
TEEL-3: 84 mg/m³

Biological Monitoring

Engineering Controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Personal Protective Equipment

Eye and Face

Chemical goggles.
Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin

Wear chemical protective gloves, e.g. PVC.
Wear safety footwear or safety gumboots, e.g. Rubber
When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

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Personal hygiene is a key element of effective hand care.
Overalls. PVC Apron. PVC protective suit may be required if exposure severe.
Eyewash unit.

Respiratory

Respiratory Protection: Not required under normal conditions of use. Industrial Applications: reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory protective devices; and AS/NZS 1716, Respiratory Protective Devices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Translucent Green
Auto Ignition temperature:	Not available
Decomposition Temperature:	Not available
Evaporation Rate:	Not available
Flammability:	Not available
Flash Point:	Not available
Initial Boiling Point:	Not available
Melting/Freezing Point:	Not available
Freezing Point	Not available
Odour:	Not available
Odour Threshold:	Not available
Partition coefficient: n-octanol/water	Not available
pH:	Approx. 8.4
Relative Density:	Not available
Solubility:	Miscible in water
Upper Flammability Limit	Not available
Lower Flammability Limit:	Not available
Explosive limits:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Viscosity:	Not available
Biopersistence:	Not available
Crystallinity:	Not available
Dustiness:	Not available
Particle size:	Not available
Redox potential:	Not available
Release of invisible flammable vapours and gases	Not available
Saturated Vapour Concentration	Not available

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air. Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates. Avoid strong bases.
Hazardous decomposition products:	Thermal decomposition may result in the release of toxic and/or
Hazardous reactions or Polymerisation:	Hazardous Polymerization will not occur

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11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

- Exposure Limits:** Ingredient: benzyl C12-16-alkyldimethylammonium chloride
TEEL-1: 1.3 mg/m³
TEEL-2: 14 mg/m³
TEEL-3: 84 mg/m³
- Ingestion:** Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract. 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. The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Concentrated solutions of cationic surfactants may cause destruction of the tissue lining the mouth, throat and gullet, and may cause nausea and vomiting. In sufficient quantity they may produce restlessness, confusion, low blood pressure, muscle weakness, collapse, convulsion, laboured breathing, blue discolouration of the lips and coma.
- Eye contact :** Causes eye irritation, tearing, stinging and redness. The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage. Many cationic surfactants are very irritating to the eyes at low concentration. Concentrated solutions can cause severe burns with permanent clouding. Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.
- Skin contact:** Contact with skin may result in irritation. Skin contact with the material may be harmful; systemic effects may result following absorption. The material can produce chemical burns following direct contact with the skin. Cationic surfactants cause skin irritation, and, in high concentrations, caustic burns. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Open cuts, abraded or irritated skin should not be exposed to this material
- Inhalation:** Material may be an irritant to mucous membranes and respiratory tract.
- Acute Toxicity:** **benzyl C12-16-alkyldimethylammonium chloride**
TOXICITY: Dermal (rabbit) LD50: 1490 mg/kg[1]
Oral(Rat) LD50; 450 mg/kg[1]
IRRITATION: Skin (rabbit): 25 mg SEVERE
- Chronic:** Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.

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12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways with heavy concentration.
Persistence and degradability	No Data Available
Bioaccumulative potential	No Data Available
Mobility	No Data Available

13. DISPOSAL CONSIDERATIONS

Disposal methods: Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Or refilled at Big Bubble in Midvale.

14. TRANSPORT INFORMATION

Road and Rail Transport	Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.
UN number:	N/A
Proper shipping name;	N/A
DG Class	N/A
Packing group	N/A
Environmental hazards for transport purposes	N/A
Special Precaution for user	N/A
Hazchem	N/A

Marine Transport

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Poisons Schedule: Schedule 6

According to SUSMP - Benzalkonium chloride at concentrations >10% are poison schedule 6 and require Standard statements A, G3, E2, S1

POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

DO NOT SWALLOW

For advice, contact a Poisons Information Centre Australia 13 11 26

SAFETY DIRECTIONS

Avoid contact with eyes. Wear eye protection when mixing or using. Avoid contact with skin. Wear protective gloves when mixing or using. Wear protective gloves when mixing or using. Use only in well ventilated area. Store under cover in a dry, clean, cool, well ventilated place away from sunlight.

FIRST AID

If swallowed, do NOT induce vomiting.

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

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16. OTHER INFORMATION

Revision date: 28/08/2021

Reason for issue: Update SDS

Key/Legend:

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² Square Centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) Degrees Celcius

g Grams

g/cm³ Grams per Cubic Centimetre

g/l Grams per Litre

HSNO Hazardous Substance and New Organism

IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or L Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

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ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value, the Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight

This material safety data sheet has been prepared by Midland Chemicals

This MSDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. No liability is accepted whether direct or indirect from its application since the conditions of final use are outside Midland Chemicals control. The end user is obliged to conform to relevant government regulations and/or patent laws applicable in their respective States of Countries.