

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 24/12/2016
Print Date: 22/12/2016
Initial Date: Not Available

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name AIRICIDE
Chemical Name Mixture blended from discrete components – not applicable
Synonyms AIRX AIRICIDE
Chemical Formula Mixture blended from discrete components – not applicable
Other Means of Identification Not Available
CAS Number Mixture blended from discrete components – not applicable

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses HARD SURFACE DISINFECTANT

Details of the supplier of the safety data sheet

Registered Company Name Registered Company Name BioEnzymes
Address Unit 1 C 424 Bilsen Rd Geebung QLD 4034 AUSTRALIA
Telephone +61 7 3630 4683
FAX
Website www.bioenzymes.com.au
Email james@bioenzymes.com.au

Emergency telephone number

Organisation Chemical Consulting Services Pty Ltd
Emergency Contact Number 0417720832
Other Emergency Numbers 13 11 26 (Poisons Information Centre Hotline)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule N/A
Classification [1] Flammable Liquid Category 3, Specific target organ toxicity - single exposure Category 3 (narcotic effects)

Legend:

1. Classified by supplier 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements



GHS LABEL ELEMENTS

SIGNAL WORD

WARNING

Hazard statement(s)

H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Precautionary statement(s) Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P271 Use only in a well-ventilated area.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P362 Take off contaminated clothing and wash before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS #	% w/w	NAME
29781-81-5	10 - 30	Propan-2-ol
7173-51-5	<0.5%	didecyldimethylammonium chloride
	100	Ingredients determined not to be hazardous

Mixtures

See section above for composition of Substances

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact If this product comes in contact with eyes:
Wash out immediately with water.
If irritation continues, seek medical attention.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact 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.

Inhalation If fumes, aerosols or combustion products are inhaled remove from contaminated area.
Other measures are usually unnecessary.

Ingestion For advice, contact a Poisons Information Centre or a doctor.
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.
Immediately give a glass of water.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

Alcohol stable foam.
Dry chemical powder.
BCF (where regulations permit).
Carbon dioxide.
Water spray or fog - Large fires only.

Special hazards arising from the substrate or mixture

Fire Incompatibility Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may Result

Advice for firefighters

Fire Fighting Alert Fire Brigade and tell them location and nature of hazard.
May be violently or explosively reactive.
Wear breathing apparatus plus protective gloves in the event of a fire.
Prevent, by any means available, spillage from entering drains or water course.
Consider evacuation (or protect in place).
Fight fire from a safe distance, with adequate cover.
If safe, switch off electrical equipment until vapour fire hazard removed.
Use water delivered as a fine spray to control the fire and cool adjacent area.
Avoid spraying water onto liquid pools.
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.

Fire/Explosion Hazard

Hot organic vapours or mist are capable of sudden spontaneous combustion when mixed with air even at temperatures below their published autoignition temperatures.
The temperature of ignition decreases with increasing vapour volume and vapour/air contact times and is influenced by pressure change.
Ignition may occur under elevated-temperature process conditions especially in processes performed under vacuum subjected to sudden ingress of air or in processes performed at elevated pressure, where sudden escape of vapours or mists to the atmosphere occurs.
Liquid and vapour are highly flammable.
Severe fire hazard when exposed to heat, flame and/or oxidisers.
Vapour may travel a considerable distance to source of ignition.
Heating may cause expansion or decomposition leading to violent rupture of containers.
On combustion, may emit toxic fumes of carbon monoxide (CO).
Combustion products include:
,
carbon dioxide (CO₂)
,
other pyrolysis products typical of burning organic material.

HAZCHEM +3Y

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

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

Major Spills Moderate hazard.
CAUTION: Advise personnel in area.
Alert Emergency Services and tell them location and nature of hazard.
Control personal contact by wearing protective clothing.
Prevent, by any means available, spillage from entering drains or water courses.
Recover product wherever possible.
IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. **IF WET:** Vacuum/shovel up and place in labelled containers for disposal.
ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
If contamination of drains or waterways occurs, advise Emergency Services.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Avoid all personal contact, including inhalation.
 Wear protective clothing when risk of exposure occurs.
 Use in a well-ventilated area.
 Prevent concentration in hollows and sumps.
DO NOT enter confined spaces until atmosphere has been checked.
DO NOT allow material to contact humans, exposed food or food utensils.
 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. Launder contaminated clothing before re-use.
 Use good occupational work practice.
 Observe manufacturer's storage and handling recommendations contained within this SDS.
 Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
 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 storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container

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

Storage incompatibility

None noted

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	isopropanol	Isopropyl alcohol	983 mg/m ³ / 400 ppm	1230 mg/m ³ / 500 ppm	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
isopropanol	Isopropyl alcohol	400 ppm	2000 ppm	12000 ppm
didecylidimethylammonium chloride	Didecylidimethylammonium chloride	0.82 mg/m ³	9 mg/m ³	17 mg/m ³

Ingredient	Original IDLH	Revised IDLH
isopropanol	12,000 ppm	2,000 [LEL] ppm
didecylidimethylammonium chloride	Not Available	Not Available

Exposure controls

Appropriate 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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

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.

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.

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Personal protection



Safety glasses with side shields. Chemical goggles.

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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. polychloroprene. nitrile rubber. butyl rubber. fluorocautchouc. polyvinyl chloride. Gloves should be examined for wear and/ or degradation constantly.

Other protection

Overalls.
P.V.C. apron.
Barrier cream.
Skin cleansing cream.
Eye wash unit.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties
Appearance

CLEAR COLOURLESS LIQUID

Physical state	Liquid	Relative Density (Water = 1)	0.95 @ 20°C
Odour	SWEET	Partition co-efficient n-octanol / water	Not Available
Odour Threshold	Not Available	Autoignition Temperature	Not Available
pH (as supplied)	8.5 – 9.5 typical	Decomposition Temperature	Not Available
Melting Point / Freezing Point (°C)	Not Available	Viscosity	1 cSt @ 20°C
Initial Boiling point and boiling range (°C)	87°C	Molecular Weight	Not Applicable
Flash Point (°C)	35°C	Taste	Not Applicable
Evaporation Rate	Not Determined	Explosive Properties	Not Applicable
Flammability	Flammable	Oxidizing Properties	Not Oxidising
Upper Explosive Limit (UEL %)	Not Applicable	Surface Tension (mN/m)	Not Determined
Lower Explosive Limit (LEL %)	Not Applicable	Volatile Component	Approx. 90%
Vapour pressure (kPa)	As for water	Gas Group	Not Applicable
Solubility in water (g/L)	Miscible	pH as a solution (1%)	7.5 @ 25°C
Vapour density (Air = 1)	Not Determined	VOC g/L	Not determined

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled This is not anticipated to be an issue under normal conditions of use.

Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.

Inhalation hazard is increased at higher temperatures.

Not normally a hazard due to non-volatile nature of product

It has as yet not been established whether the glycol ether and alcohol have synergistic effects but it is possible that oxidation and elimination of both substances probably involves alcohol dehydrogenases; competitive inhibition would be the result.

Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

Ingestion This is not anticipated to be an issue under normal conditions of use.

ingestion of the material may be damaging to the health of the individual. Nonionic surfactants may produce localised irritation of the oral or gastrointestinal mucosa and induce vomiting and mild diarrhoea.

Skin Contact

Practical experience predicts that skin irritation may present after prolonged or repeated exposure to the material; 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.

Eye

Evidence exists, or practical experience predicts, that the material may cause severe 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. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

Chronic

None noted

Reference Data

MATERIAL	TOXICITY	IRRITATION
didecyltrimethylammonium chloride	Oral (rat) LD50: 84 mg/kg[2]	Skin (rabbit): 500 mg SEVERE
isopropanol	Dermal (rabbit) LD50: 12792 mg/kg[1] Inhalation (rat) LC50: 72.6 mg/L/4hr[2] Oral (rat) LD50: 5000 mg/kg[2]	Eye (rabbit): 10 mg - moderate Eye (rabbit): 100 mg - SEVERE Eye (rabbit): 100mg/24hr-moderate Skin (rabbit): 500 mg - mild

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

SECTION 12 ECOLOGICAL INFORMATION

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
didecyltrimethylammonium chloride	LC50	96	Fish	0.00001mg/L	4
didecyltrimethylammonium chloride	EC50	48	Crustacea	0.018mg/L	4
didecyltrimethylammonium chloride	EC50	72	Algae or other aquatic plants	0.11mg/L	4
didecyltrimethylammonium chloride	EC50	504	Crustacea	0.031mg/L	2
didecyltrimethylammonium chloride	NOEC	96	Fish	<0.00001mg/L	4
isopropanol	LC50	96	Fish	184mg/L	3
isopropanol	EC50	48	Crustacea	12500mg/L	5
isopropanol	EC50	96	Algae or other aquatic plants	993mg/L	3
isopropanol	EC50	384	Crustacea	42mg/L	3
isopropanol	NOEC	5760	Fish	0.02mg/L	4

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning or process equipment to enter drains.

It may be necessary to collect all wash water for treatment before disposal.

In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Where in doubt contact the responsible authority.

Recycle wherever possible.

Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).

Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION



Labels Required

Marine Pollutant No

HAZCHEM +3Y

Land transport (ADG):

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains isopropanol)
Transport hazard class(es)	Class 3
	Subrisk Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	Special provisions 223 274
	Limited quantity 5 L

Air transport (ICAO-IATA / DGR):

UN number	1993
UN proper shipping name	Flammable liquid, n.o.s. * (contains isopropanol)
Transport hazard class(es)	ICAO/IATA Class 3
	ICAO / IATA Subrisk Not Applicable
	ERG Code 3L
Packing group	III

Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A3
	Cargo Only Packing Instructions	366
	Cargo Only Maximum Qty / Pack	220 L
	Passenger and Cargo Packing Instructions	355
	Passenger and Cargo Maximum Qty / Pack	60 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y344
	Passenger and Cargo Limited Maximum Qty / Pack	10 L

Sea transport (IMDG-Code / GGVSee):

UN number	1993	
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (contains isopropanol)	
Transport hazard class(es)	IMDG Class	3
	IMDG Subrisk	Not Applicable
Packing group	III	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-E, S-E
	Special provisions	223 274 955
	Limited Quantities	5 L

SECTION 15 REGULATORY INFORMATION

Other information:

All ingredients are listed in the Australian Inventory of Chemical Substances (AICS)

SECTION 16 OTHER INFORMATION

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations
 PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index