Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

Product name	**BIOENZYMES ULTRA**
Chemical Name	**Mixture blended from discrete components – not applicable**
Synonyms	**NA**
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	**BIOENZYMES**
Address	**Unit 1C 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. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

CLASSIFICATION

Acute Tox. 4 (Oral)	**H302 - HARMFUL IF SWALLOWED**
Skin Corr. 1C	**H314 - CAUSES SEVERE SKIN BURNS AND EYE DAMAGE**
Eye Dam. 1	**H318 - CAUSES SERIOUS EYE DAMAGE**

POISONS SCHEDULE **S5**

Label elements

GHS LABEL ELEMENTS

SIGNAL WORD **DANGER**

Hazard statement(s)
Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.

Precautionary statement(s) Prevention
Do not breathe mist, vapors.
Wash hands and forearms thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear eye protection, protective gloves, protective clothing, face protection.

Precautionary statement(s) Response
If swallowed: rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Rinse mouth.
Wash contaminated clothing before reuse

Precautionary statement(s) Storage
Store locked up.

Precautionary statement(s) Disposal
Dispose of contents/container in accordance with Local, State, and Federal regulations

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS #	% w/w	NAME	Classification (GHS-AU)
7173-51-5	1 - 5%	didecyldimethylammonium chloride	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
9016-45-9	1 - 5%	nonylphenol, ethoxylated	Eye Dam. 1, H318 Aquatic Chronic 2, H411
64-02-8	1 – 5%	tetrasodium ethylenediaminetetracetate	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
	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
Immediately give a glass of water.
First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility Reactivity : Reacts with (strong) oxidizers. Reacts with (strong) reducers.

Advice for firefighters

Fire Fighting

Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves in the event of a fire.
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 a significant fire risk, however containers may burn.

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.
Contain released substance, pump into suitable containers. Plug the leak, cut off the supply
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.
Contain released substance, pump into suitable containers. Plug the leak, cut off the supply
Control personal contact by wearing protective clothing.
Prevent, by any means available, spillage from entering drains or water courses.
Recover product wherever possible.
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

Avoid Oxidizing agent. Reducing agents.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3

MATERIAL DATA

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. fluorocaoutchouc. 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 DARK VIOLET LIQUID

Physical state	Liquid	Relative Density (Water = 1)	1.05 @ 20°C
Odour	FLORAL	Partition co-efficient n-octanol / water	Not Available
Odour Threshold	Not Available	Autoignition Temperature	Not Available
pH (as supplied)	6.5-7.5 typical	Decomposition Temperature	Not Available
Melting Point / Freezing Point (°C)	Not Available	Viscosity	1 cSt @ 20°C
Initial Boiling point and boiling range (°C)	100°C	Molecular Weight	Not Applicable
Flash Point (°C)	Not Applicable	Taste	Not Applicable
Evaporation Rate	Not Determined	Explosive Properties	Not Applicable
Flammability	Not 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 @ 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.**
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.

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

This material is considered to be harmful if swallowed based on data available on the individual constituents.

Skin Contact

The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Open cuts, abraded or irritated skin should not be exposed to this material
Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Eye

Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

Chronic

Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.

Reference Data

tetrasodium ethylenediaminetetracetate (64-02-8)
LD50 oral rat > 2000 mg/kg (Rat)
ATE US (oral) 500.000 mg/kg body weight

nonyl phenol, ethoxylated (9016-45-9)
LD50 oral rat 4290 mg/kg
LD50 dermal rabbit > 3000 mg/kg
ATE US (oral) 4290.000 mg/kg body weightReference Data

didecyl dimethyl ammonium chloride (7173-51-5)
LD50 oral rat 238 mg/kg
LD50 dermal rabbit 3342 mg/kg
ATE US (oral) 238.000 mg/kg body weight
ATE US (dermal) 3342.000 mg/kg body weight

SECTION 12 ECOLOGICAL INFORMATION

Reference Data - Ecotoxicity

tetrasodium ethylenediaminetetracetate (64-02-8)
LC50 fish 1 121 mg/l (96 h; Lepomis macrochirus; Soft water)
EC50 Daphnia 1 625 mg/l (24 h; Daphnia magna)
LC50 fish 2 374 - 792 mg/l (96 h; Lepomis macrochirus; pH > 7)
Threshold limit algae 1 > 100 mg/l (72 h; Scenedesmus subspicatus; Growth)

nonyl phenol, ethoxylated (9016-45-9)
LC50 fish 1 5 mg/l (96 h; Gasterosteus aculeatus; Intermittent flow)
EC50 other aquatic organisms 1 500 mg/l (Selenastrum capricornutum; Chronic)
LC50 fish 2 7 mg/l (96 h; Leuciscus idus)
Threshold limit algae 1 500 mg/l (Selenastrum capricornutum; Cell numbers)

didecyl dimethyl ammonium chloride (7173-51-5)
LC50 fish 1 1 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1 0.094 mg/l (48 h; Daphnia magna)
EC50 other aquatic organisms 1 11 mg/l (3 h; Activated sludge)

12.2. Persistence and degradability

tetrasodium ethylenediaminetetracetate (64-02-8)

Persistence and degradability Not readily biodegradable in water.

Biochemical oxygen demand (BOD)

< 0.002 g O2/g substance

Chemical oxygen demand (COD)

0.54 - 0.58 g O2/g substance

nonyl phenol, ethoxylated (9016-45-9)

Persistence and degradability Not readily biodegradable in water.

didecyl dimethyl ammonium chloride (7173-51-5)

Persistence and degradability Readily biodegradable in water.

12.3. Bioaccumulative potential

tetrasodium ethylenediaminetetracetate (64-02-8)
Log Pow -2.6
Bioaccumulative potential Bioaccumulation: not applicable.

nonyl phenol, ethoxylated (9016-45-9)
Log Pow > 4

didecyl dimethyl ammonium chloride (7173-51-5)
BCF fish 1 81 (966 h; Lepomis macrochirus)
Log Pow 4.66 (Estimated value)

12.4. Other adverse effects
Other information : Avoid release to the environment.

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 Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Other information
All ingredients are listed on 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