

Section 1 – Identification of the Material and Supplier

Product Name: Evopure Tropical Algaecide
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Product Use: Swimming pool algaecide and clarifier for black spot and other algae.
Creation Date: 1/06/2018
This version issued: 1/06/2018 and is valid for 5 years from this date.

Details of Manufacturer:

Evolution Water & Lighting Solutions Pty Ltd
1/33 Hinkler Drive, Highland Park QLD 4211
Phone: +61 7 5565 0000
Fax: +61 7 5565 0010
Email: enquiries@evolutionwls.com.au

Emergency Telephone Number: 000

Poisons Information Centre: 131 126 in Australia, 0800 764 766 in New Zealand

Section 2 – Hazards Identification

Hazard Classification of Substance

Classified as hazardous according to criteria of Safework Australia;

HAZARDOUS SUBSTANCE

Classified as dangerous according to criteria of ADG Code.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings, IBC's, or any other receptacle not exceeding 500 kg(L).

SUSMP Classification: S5 - CAUTION

GHS Signal word: WARNING



HAZARD CATEGORY

Acute Oral Toxicity - Category 4
Acute Inhalation Toxicity - Category 4
Skin corrosion - category 1B
Eye Damage - Category 1
Acute Aquatic Toxicity - Category 1
Chronic Aquatic Toxicity - Category 1
Specific target organ toxicity (single exposure) - Category 3

HAZARD STATEMENTS

H302: Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H400 - Very toxic to aquatic life.
H410: Very toxic to aquatic life, with long lasting effects.

PRECAUTIONARY STATEMENTS

PREVENTION

P102: Keep out of reach of children.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

Poisons Information Centre: 131 126 in Australia. 0800 764 766 in New Zealand

P273: Avoid release to the environment.

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

RESPONSE

P352: Wash with plenty of soap and water.

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

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

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.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

P281: Use personal protective equipment as required.

STORAGE

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

DISPOSAL

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 – Composition/Information on Ingredients

Ingredients

Chemical Entity	CAS Number	Proportion	GHS Classification
Quaternary ammonium compounds benzyl-C12-14-alkyldimethyl ,chlorides	85409-22-9	>=5%Conc<10%:	H302; H314 ; H400 ; H410
1,2-Ethanediamine, N,N,N',N'-tetramethyl-, polymer with 1,1'-oxybis[2-chloroethane]	31512-74-0; or 31075-24-8	6%	H302; H400
Copper sulphate	[7758-98-7]	<6%	H410
Ethanolamine	[141-43-5]	>=5%Conc<10%:	H302; H312; H332; H335
Triethanolamine	[102-71-6]	<3%	H319

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible. If the sum of ingredients is less than 100%, the material consists of further ingredients determined not to be hazardous or below their cut-off limits.

Section 4 – First Aid Measures

General Information: You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 131 126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist. If aspiration (breathing in of liquid) has occurred or is suspected, transport to hospital immediately. If breathing stops, give artificial respiration

Skin Contact: If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

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

Ingestion: If swallowed, do NOT induce vomiting. Thoroughly rinse the mouth with water. Transport to hospital or medical centre.

Advice to Doctor: Treat symptomatically.

SYMPTOMS OF EXPOSURE

Ingestion: If swallowed will have metallic taste. May cause nausea and vomiting. May cause tissue damage to mouth and gullet.

Eye Contact: Will be irritant, causing tearing and redness. May cause permanent injury and impairment of vision.

Skin Contact: May be irritant with sensitive individuals or after repeated contact. Prolonged or repeated exposure may lead to dermatitis. No specific data available on skin adsorption.

Inhalation: Not normally considered an inhalation hazard. Aspiration (breathing in) of liquid, spray mist. May cause irritation to respiratory tract.

Section 5 – Fire Fighting Measures

Suitable Extinguishing Media: Water spray jet, Foam, Carbon Dioxide (CO₂), Dry Chemical Powder.

Specific Hazards During Firefighting: Decomposes on heating emitting toxic fumes, including those of oxides of: Copper, Sulfur, Carbon (monoxide, CO), Nitrogen (NO_x) and Hydrogen chloride (HCl).

Special Protective Precautions & Equipment for Fire Fighters: Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

Hazchem Code: 2Z

Section 6 – Accidental Release Measures

Emergency Procedures / Environmental Precautions: Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal Precautions / Protective Equipment / Methods & Materials for Containment & Cleaning Up: Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. After cleaning, flush away any residual traces with water.

Section 7 – Handling and Storage

Precautions for Safe Handling: Handle and open container with care. Avoid skin and eye contact and breathing in vapour, mists and aerosols. Observe the general rules of industrial fire protection. Wash hands before breaks and at the end of workday. Use protective skin cream before handling the product. Take off immediately all contaminated clothing and wash it before reuse.

Conditions for Safe Storage: Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

Section 8 – Exposure Controls and Personal Protection

Control Parameters: Not determined for product. However for some ingredients the Derived No Effect Limit (DNEL) according to Regulation EC #1907/2006 are shown below:

Substance	End Use	Exposure Route	Potential health Effects	Value DNEL
Alkyl dimethyl benzyl ammonium chloride	General population	Inhalation	Long-term systemic effects	1.64 mg/m ³
	General population	Dermal	Long-term systemic effects	3.4 mg/kg bw/day
WORKSAFE AUSTRALIA Exposure limits				

Substance	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Notices
Ethanolamine	3	7.5	6	15	
Triethanolamine	-	5	-	-	sensiter

In use, in the swimming pool [TEA] ≤ 0.3 mg/m³

Engineering Controls: Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

Personal Protection: The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES.



Wear overalls, chemical goggles and impervious gloves. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Section 9 – Physical and Chemical Properties

Appearance:	Ink-blue, clear, mobile fluid. Characteristic odour.
Flammability:	Product is not flammable.
Boiling Point:	100°C
Flash Point:	Unknown
Vapour Pressure:	Unknown
Volatiles:	81+/-0.5%w/w
Vapour Density:	Unknown
Flammability Limits:	Unknown
Specific Gravity:	1.02
Solubility in water:	Completely miscible.
pH as supplied:	8.5-10.5
pH 1% Aqueous Solution:	7.0
Additional Information:	Do not allow to enter watercourses, drains without copious dilution.

Section 10 – Stability and Reactivity

Reactivity: Stable under normal conditions of use.

Chemical Stability: Stable under normal conditions of use.

Conditions to Avoid: Do store in ambient to warm areas- keep below 35°C for good shelf life.

Incompatible Materials: Oxidising agents (Class 5), or foodstuffs.

Hazardous Decomposition Products: The product will decompose in a fire giving off toxic gases, being oxides of carbon (COX), nitrogen (NOX), sulphur SOX, Copper CuOx and hydrogen chloride.

Hazardous Reactions: None under normal conditions of use.

Section 11 – Toxicological Information

Acute Oral Toxicity: No data available for product however active ingredient LD's listed below:

Quaternary ammonium compounds (QAC)	Acute Oral Toxicity LD50 (Rat) 500-2000 mg/kg
Polyquaternary Ammonium (CAS 31512-74-0)	Acute toxicity, LD50, Oral, (Rat) 1850 mg/kg Dermal Toxicity LD50 (Rabbit) >2000mg/kg
Cupric Sulphate (Copper salt)	Acute Oral Toxicity LD50 (Rats) 300mg/kg.
Ethanolamine	Acute Oral Toxicity LD50 (Rat) 1090-3220mg/kg Dermal Toxicity LD50 (Rabbit) 1000-2950mg/kg

Acute toxicity:	See above for ingredient list
Skin corrosion/irritation:	Expected to be an irritant.
Serious eye damage/irritation:	Expected to be an irritant
Respiratory or skin sensitisation:	Not expected to be a sensitiser.
Germ cell mutagenicity:	Not expected to be mutagenic.
Carcinogenicity:	Not expected to be carcinogenic.
Reproductive toxicity:	Not expected to impair fertility.
Specific Target Organ Toxicity (STOT) – single exposure:	No data
Specific Target Organ Toxicity (STOT) – repeated exposure:	No data
Aspiration hazard:	Not expected to be a hazard.

Section 12 – Ecological Information

Ecotoxicity: Toxic to aquatic species, due to copper content. Avoid contaminating waterways.

96 hr LC50 (Rainbow trout, Harlequin fish, goldfish, eel): 0.5-12.5 mg/l

48 hr LC50 (Daphnia Magna): 120 ug/l

Acute Toxicity:

Fish Method: QAC OECD Test Guideline 203	LC50 (Danio rerio (zebra fish)): 1 - 10 mg/l Exposure time: 96 h
Polyquaternary Ammonium	LC50, Fathead Minnow (Pimephales promelas), larva(e), 353.0 ug/l, 48 H, Mortality;
Copper salt	mortality LC50 - 1 - 2.5 mg/l - 96.0 h
Aquatic invertebrate Method: US-EPA FIFRA 72-2	EC50 (Daphnia magna (Water flea)): 0.0058 mg/l Exposure time: 48 h Remarks: The values mentioned are those of the active ingredient.
Polyquaternary Ammonium	LC50, Zebra Mussel (Dreissena polymorpha), 60000. ug/l, 48 H, Mortality, Water temperature: 17.00 C (62.6 F) C, pH: 7.70, Hardness: 40.00 mg/l Result: Morphological changes.
Polyquaternary Ammonium	LC50, Water Flea (Ceriodaphnia dubia), neonate, 218.0 ug/l, 48 H, Mortality;
Copper salt	Immobilization EC50 - Daphnia magna (Water flea) - 0.024 mg/l - 48 h
Algae QAC Method: OECD Test Guideline 201	EC50 (Selenastrum capricornutum (green algae)): 0.049 mg/l ; Exposure time: 72 h Remarks: The values mentioned are those of the active ingredient.
Microorganisms –	Data not available

Chronic Toxicity:

Fish –	Toxic to marine life
Aquatic invertebrate –	Toxic to marine life
Algae –	Data not available
Microorganisms –	Data not available

Persistence and Degradability: Do not dump large quantities into biological treatment ponds. Laboratory data indicates that if quaternary ammonium compounds are discharged steadily at low concentrations (< 15 mg/litre), it may be expected that these salts can be degraded in sewage treatment plants by acclimatized organisms. However consideration should be given to the Copper content which may change the dilution factors.

Bioaccumulative Potential: Copper salts will bioaccumulate, however quaternary ammonium compound (QAC) will biodegrade upon adequate dilution.

Mobility in Soil: No data available.

Section 13 – Disposal Considerations

Disposal Methods and Containers: Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered.

Special Precautions for Landfill or Incineration: Consult your state Land Waste Management Authority for more information.

Section 14 – Transport Information

Road and Rail Transport: Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings, IBC's, or any other receptacle not exceeding 500 kg(L).

UN Number: 3082
 Transport Hazard Class/s: 9 Miscellaneous Dangerous Goods
 Packing Group: III
 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 Technical name: Alkyldimethylbenzylammoniumchloride and copper-amine complex
 Hazchem Code: 2Z
 IERG Number: 47

Marine Transport: Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN Number: 3082
 Transport Hazard Class/s: 9 Miscellaneous Dangerous Goods
 Packing Group: III
 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 Technical name: Alkyldimethylbenzylammoniumchloride and copper-amine complex
 Hazchem Code: 2Z
 Special Instructions for User: NA
 IMDG EMS Fire: F-A
 IMDG EMS SPILL: S-F

Air Transport: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN Number: 3082
 Transport Hazard Class/s: 9 Miscellaneous Dangerous Goods
 Packing Group: III

Poisons Information Centre: 131 126 in Australia. 0800 764 766 in New Zealand

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name: Alkyldimethylbenzylammoniumchloride and copper-amine complex
Hazchem Code: 2Z
Environmental Hazards: Special marking provision: environmentally hazardous. Shipment permitted

Section 15 – Regulatory Information

Classification: This material is hazardous according to Safe Work Australia;
HAZARDOUS SUBSTANCE.

Classification of the Substance or Mixture:

Acute Oral Toxicity - Category 4
Acute Inhalation Toxicity - Category 4
Skin corrosion - category 1B
Eye Damage - Category 1
Acute Aquatic Toxicity - Category 1
Chronic Aquatic Toxicity - Category 1
Specific target organ toxicity (single exposure) - Category 3

Hazard Statements:

H302: Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H400 - Very toxic to aquatic life.
H410: Very toxic to aquatic life, with long lasting effects.

Poisons Schedule (SUSMP): 5 CAUTION

AICS: All ingredients are on the Australian Inventory of Chemical Substances.

Section 16 – Other Information

This SDS contains only safety-related information. For other data see product literature.

Contact Person / Point:

FOR EMERGENCIES ONLY CONTACT: Australia: 000
POISONS INFORMATION CENTRE: Australia 131126
New Zealand 0800 764 766

Acronyms:

ADG Australian Code for the Transport of Dangerous Goods by Road and Rail
ACGIH American Conference of Governmental Industrial Hygienists
ASCC Australian Safety and Compensation Council
Carcinogen Category Number 1. Established human carcinogen
2. Probably human carcinogen
3. Substances suspected of having carcinogenic potential
Code AICS Australian Inventory of Chemical Substances
CAS number Chemical Abstracts Service Registry Number
EPG Emergency Procedure Guide (superseded by IERG)
Hazchem Code Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IERG HB 76-2004 Dangerous goods - Initial Emergency Response Guide
IMDG International Maritime Dangerous Goods. A uniform code for transport of dangerous goods at sea.
LEL lower flammable (explosive) limits in air;

LD₅₀	Lethal Dose sufficient to kill 50% of test population
NIOSH	National Institute for Occupational Safety and Health The United States federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness.
NOAEL	No Observed Adverse Effect Level
NOEL	No Observable Effect Level
NOHSC	National Occupational Health and Safety Commission
NTP	National Toxicology Program (USA)
PEL	Permissible Exposure Limit
RTECS	Registry of Toxic Effects of Chemical Substances (Symyx Technologies')
TCLO	Toxic Concentration Low
TDLO	Toxic Dose Low : lowest dosage per unit of bodyweight (typically stated in milligrams per kilogram) of a substance known to have produced signs of toxicity in a particular animal species.
TLV	Threshold Limit Value (ACGIH):The time weighted average used to describe exposure which is harmless to most of the population when exposed 8 hours per day, 40 hours per week.
TWA	(Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
SAFework	Independent statutory agency with primary responsibility to improve occupational health and safety and workers' compensation arrangements across Australia.
STEL	(Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UEL	upper flammable (explosive) limits in air;
UN Number	United Nations Number
Sources for data.	Safety Data Sheets from Suppliers Hazardous Substances Information System (HSIS)– ASCC Australia (on-line) GHS (Globally Harmonised System of Substance Classification & Labelling) REACH (European Chemical Substance Information System) ADG Code 7th Edition SUSMP No 13

Disclaimer:

This SDS 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. Since Evolution Water and Lighting Solutions Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. If clarification or further information is needed, the user should contact Evolution Water and Lighting Solutions Pty Ltd at the contact details on page 1. Evolution Water and Lighting Solutions Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request. Evolution Water and Lighting Solutions Pty Ltd however makes no warranty whatsoever, expressed, implied or of merchantability regarding the accuracy of such data or the results to be obtained from the use thereof and assumes no responsibility for injury to buyer or third persons or for any damage to property, Buyer assumes all risks.