Issue Date: May 2022

SDS No: 744
Version: V.0.0.4

TelChem Algae Clear

Telford Industries
Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

Product name	TelChem Algae Clear
Chemical Name	Not Available
Synonyms	Algaecide
Proper shipping name	Not Applicable
Chemical formula	Not Available
Other means of identification	Not Available

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

Relevant Identified Uses	Algaecide and winteriser for swimming pools

Details of the supplier of the safety data sheet

Company Name	**Telford Industries**
Address	**7 Valentine Street Kewdale WA 6105 Australia**
Telephone	**+61 8 9353 2053**
Website	**https://www.telfordindustries.com.au/**
Email	**info@telfordindustries.com.au**

Emergency telephone number

Association/Organisation	**Not Available**
Emergency telephone numbers	**1800 429 628**
Other Emergency telephone numbers	**1800 HAZMAT**

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. NOT DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule	**S6**
Classification	Eye Irritation Category 2A, Acute Aquatic Hazard Category 2

Label Elements

GHS label elements	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H319	Causes serious eye irritation.
H401	Toxic to aquatic life

Precautionary statement(s) Prevention

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

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.

Precautionary statement(s) Storage

Not Applicable.

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

CAS No	% [weight]	Name
7447-39-4	<10	copper chloride
	balance	other ingredients

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ➢ 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 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	If skin or hair contact occurs: ➢ 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.
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.
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.

Indication of any immediate medical attention and special treatment needed

For copper intoxication:

- Unless extensive vomiting has occurred empty the stomach by lavage with water, milk, sodium bicarbonate solution or a 0.1% solution of potassium ferrocyanide (the resulting copper ferrocyanide is insoluble).
- Administer egg white and other demulcents.
- Maintain electrolyte and fluid balances.
- Morphine or meperidine (Demerol) may be necessary for control of pain.
- If symptoms persist or intensify (especially circulatory collapse or cerebral disturbances, try BAL intramuscularly or penicillamine in accordance with the supplier's recommendations.
- Treat shock vigorously with blood transfusions and perhaps vasopressor amines.
- If intravascular haemolysis becomes evident protect the kidneys by maintaining a diuresis with mannitol and perhaps by alkalinising the urine with sodium bicarbonate.
- It is unlikely that methylene blue would be effective against the occassional methaemoglobinemia and it might exacerbate the subsequent haemolytic episode.
- Institute measures for impending renal and hepatic failure.

[GOSSELIN, SMITH & HODGE: Commercial Toxicology of Commercial Products]

- A role for activated for charcoals or emesis is, as yet, unproven.
- In severe poisoning CaNa2EDTA has been proposed.

[ELLENHORN & BARCELOUX: Medical Toxicology]

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	None known.

Advice for firefighters

Fire Fighting	➢ 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. ➢ If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	➢ The material is not readily combustible under normal conditions. ➢ Not considered to be a significant fire risk. ➢ May emit poisonous or corrosive fumes.
HAZCHEM	Not Applicable

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	➢ 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, labeled container for waste disposal. ➢ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
Major Spills	➢ Clear area of personnel and move upwind. ➢ 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. ➢ Collect recoverable product into labelled containers for recycling. ➢ Neutralize/decontaminate residue (see Section 13 for specific agent). ➢ Wash area and prevent runoff into drains. ➢ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	➢ Avoid all personal contact, including inhalation. ➢ Wear protective clothing when risk of exposure occurs. ➢ When handling DO NOT eat, drink or smoke. ➢ Keep containers securely sealed when not in use.
Other Information	➢ Store in original containers. ➢ 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	➢ 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. ➢ Check all containers are clearly labelled and free from leaks.
Storage Incompatibility	For copper(II) chloride ➢ Avoid contact with alkali metals. ➢ Avoid storage with potassium, sodium, hydrazine, hydrazinium diperchlorate, acids, acid fumes, nitromethane, strong oxidisers, acetylene and sodium hypobromite. ➢ A mixture of either sodium or potassium with cupric chloride produces a strong explosion on impact. ➢ Decomposes in the presence of 4-chloro-o-toluidine at elevated temperatures (above 229 C). ➢ WARNING: Avoid or control reaction with peroxides. All transition metal peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively. ➢ The pi-complexes formed between chromium (0), vanadium (0) and other transition metals (haloarene-metal complexes) and mono-or poly-fluorobenzene show extreme sensitivity to heat and are explosive. ➢ Avoid reaction with borohydrides or cyanoborohydrides

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)
INGREDIENT DATA

Not Available.

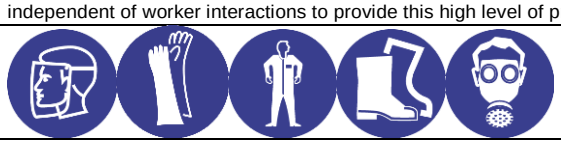
EMERGENCY LIMITS

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
copper chloride	Copper(II) chloride dihydrate; (Cupric chloride)	8 mg/m3	89 mg/m3	530 mg/m3
copper chloride	Copper(II) chloride (1:2); (Cupric chloride)	6.3 mg/m3	69 mg/m3	420 mg/m3

Ingredient	Original IDLH	Revised IDLH
All Ingredients	Not Available	Not Available

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.
Personal Protection	
Eye and Face protection	➢ Safety glasses with imperforated side shields may be used where continuous eye protection is desirable, as in laboratories; ➢ Chemical goggle. whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. ➢ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes.
Skin protection	See Hand protection below
Hands/feet protection	➢ Elbow length PVC gloves ➢ 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.
Body protection	See Other protection below
Other protection	➢ Overalls. ➢ PVC Apron. ➢ PVC protective suit may be required if exposure severe. ➢ Eyewash unit. ➢ Ensure there is ready access to a safety shower.
Thermal hazards	Not Available

Respiratory protection

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brilliant blue liquid miscible with water.

Physical state	Liquid	**pH as a Solution**	Not Available
Odour	Not Available	**Molecular Weight (g/mole)**	Not Available
Odour threshold	Not Available	**Flammability**	Not Applicable
Specific gravity	1.05	**Upper Explosive Limit (%)**	Not Applicable
Colour	Brilliant blue	**Lower Explosive Limit (%)**	Not Applicable
pH (as supplied)	1.45	**Vapour pressure (kPa)**	Not Available
Melting point/Freezing point (°C)	Not Available	**Solubility in water (g/L)**	Miscible
Initial boiling point and boiling range (°C)	Not Available	**Vapour density (Air = 1)**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	➢ Unstable in the presence of incompatible materials. ➢ Product is considered stable. ➢ Contact with alkaline material liberates heat. ➢ 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	The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
Ingestion	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.
Skin Contact	Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact. 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	Evidence exists, or practical experience predicts, that the material may cause 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.
Chronic	Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Chronic copper poisoning is rarely recognised in man although in one instance, at least, symptoms more commonly associated with exposures to mercury, namely infantile acrodynia (pink disease), have been described. Tissue damage of mucous membranes may follow chronic dust exposure.

Product Name	**TOXICITY**	**IRRITATION**
copper chloride	Oral (rat) LD50: 140 mg/kg[2]	Not Available

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*

copper chloride	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

Acute Toxicity	⊘	**Carcinogenicity**	⊘
Skin Irritation/Corrosion	⊘	**Reproductivity**	⊘
Serious Eye Damage/Irritation	✓	**STOT – single exposure**	⊘
Respiratory or Skin sensitisation	⊘	**STOT – repeated exposure**	⊘
Mutagenicity	⊘	**Aspiration Hazard**	⊘

Legend: ✗ *– Data available but does not fill the criteria for classification*
✓ *– Data required to make classification available*
⊘ *– Data Not Available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
copper chloride	LC50	96	Fish	0.0028mg/L	2
copper chloride	EC50	48	Crustacean	~0.00002mg/L	4
copper chloride	EC50	96	Algae or other aquatic plants	0.0018mg/L	4
copper chloride	BCFD	168	Algae or other aquatic plants	2.03mg/L	4
copper chloride	EC10	216	Algae or other aquatic plants	0.000038mg/L	4
copper chloride	NOEC	96	Crustacean	0.00001mg/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*				

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
copper chloride	HIGH	HIGH

Bio accumulative potential

Ingredient	Bioaccumulation
copper chloride	LOW (Log KOW = 0.0494)

Mobility in Soil

Ingredient	Mobility
copper chloride	LOW (KOC = 23.74)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product/Packaging disposal	➢ Containers may still present a chemical hazard / danger when empty. ➢ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ➢ In all cases disposal to sewer may be subject to local laws and regulations. ➢ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Not Applicable.

Land transport (ADG), Air transport (ICAO-IATA / DGR), Sea transport (IMDG-Code / GGVSee)

Not Applicable.

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

COPPER CHLORIDE (7447-39-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (benzyl C12-16-alkyldimethylammonium chloride; water)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (water)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	*Y = All ingredients are on the inventory* *N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Ingredients with multiple CAS Numbers

Name	CAS No
copper chloride	7447-39-4, 10125-13-0, 1344-67-8

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

Name	CAS No		
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		

END OF SDS