Section 1 - Identification

CropSure Pty Ltd
18 Raymond Road
Laverton North VIC 3026 AUSTRALIA
Phone: 03 9931 2200
Emergency Contact AU: +61 1800 951 288
Emergency Contact NZ: +64 800 700 112

Chemical nature: Herbicide containing triallate.

Trade Name: **CropSure Triallate 500EC Herbicide**

Product Use: Agricultural herbicide for use as described on the product label.

Creation Date: **November, 2022**

This version issued: **November, 2022** and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

SUSMP Classification: S5

ADG Classification: Class 9: Miscellaneous Dangerous Goods.

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.



GHS Signal word: DANGER

Flammable liquids Category 4
Acute Toxicity Oral Category 4
Aspiration Hazard Category 1
Skin Sensitisation Category 1
Specific Target Organ toxicity - repeated exposure Category 2
Hazardous to aquatic environment Short term/Chronic Category 1

HAZARD STATEMENT:

H227: Combustible liquid.
AUH066: Repeated exposure may cause skin dryness or cracking.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H317: May cause an allergic skin reaction.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
P260: Do not breathe fumes, mists, vapours or spray.
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.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P314: Get medical advice or attention if you feel unwell.
P330: Rinse mouth.
P363: Wash contaminated clothing before reuse.
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.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P370+P378: In case of fire: Use carbon dioxide, dry chemical, foam, to extinguish.

STORAGE

P410: Protect from sunlight.

P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & Colour: Amber to brown liquid.
Odour: Characteristic odour.

Section 3 – Composition and Information on Ingredients

Ingredients	CAS No	Conc, g/L	TWA (mg/m^3)	STEL (mg/m^3)
Tri-allate	2303-17-5	500	not set	not set
Aromatic hydrocarbons	64742-94-5	471	not set	not set
Other non hazardous ingredients	secret	to 1 L	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

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 13 1126 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: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Skin Contact: If sensitising symptoms are experienced, remove victim from area and allow to breathe fresh air. If irritation persists, call a doctor or poisons information centre.
Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.
Ingestion: If swallowed, do NOT induce vomiting. Immediately contact a Poisons Information Centre, or call a doctor. Wash mouth with water. If vomiting occurs naturally, lay patient on side, in recovery position as there is a chance that vomitus may enter airways causing harm to lungs.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: Combustible liquid. The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses.
Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC and Nitrile. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.
Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains

or waterways. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10. Take special care if handling this product over extended periods as it is a cumulative poison.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits **TWA (mg/m^3)** **STEL (mg/m^3)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Tri-allate is set at 0.005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake

NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product for lengthy periods. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC, nitrile.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Amber to brown liquid.
Odour:	Characteristic odour.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Boiling Point:	>160°C at 100kPa
Flash point:	>62°C
Upper Flammability Limit:	No data.
Lower Flammability Limit:	No data.
Flammability Class:	Flammable Category 4 (GHS), C1 combustible (AS 1940)
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	Approx 1.05
Water Solubility:	Emulsifiable.
pH:	No data.

Volatility: No data.
Odour Threshold: No data.
Evaporation Rate: No data.
Coeff Oil/water Distribution: No data
Particle Characteristics: Not applicable for liquids.
Autoignition temp: No data.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
Conditions to Avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities: strong acids, strong bases, strong oxidising agents.
Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Toxicity: An information profile for Triallate is available at http://extoxnet.orst.edu/pips/ghindex.html
Acute toxicity: The oral LD50 for technical Triallate in rats is 800 to 2165 mg/kg, and in mice is 930 mg/kg. The oral LD50 in rats for emulsifiable concentrate formulations is 2700 mg/kg, and for granular formulations is greater than 12,000 mg/kg. The dermal LD50 for technical Triallate is 8200 mg/kg in rabbits, and 3500 mg/kg in rats. The inhalation 4-hour LC50 in cats is 0.4 mg/L. In rats fed Triallate at doses of 50 to 2000 mg/kg, abnormal behavior was observed at doses of 100 mg/kg and above. No changes in nerve tissue occurred. At doses of 600 mg/kg and above, death and reduced body weight occurred. Although Triallate is a carbamate, it does not inhibit cholinesterase activity. No symptoms occurred, and cholinesterase activity was not affected in rats fed single doses of 1500 and 3000 mg/kg.
Chronic toxicity: Prolonged or repeated exposure to Triallate may cause symptoms similar to those caused by acute exposure. Oral doses of 100 mg/kg/day Triallate to hamsters for 22 months resulted in decreased body weight gain, changes in blood chemistry, slight anaemia, increased liver weights, and decreased spleen weights. Mice fed 3 and 12.5 mg/kg/day Triallate for 2 years exhibited increased liver and heart weights, changes in the liver and spleen, and mineralization in the brain and cornea. No adverse effects were observed in dogs fed 1.5, 5, and 15 mg/kg/day Triallate for 2 years.
Reproductive effects: Reduced body and pup weights, reduced pregnancy rate and length, reduced pup survival, and effects on other reproductive parameters occurred when rats were fed 30 mg/kg/day Triallate during mating, pregnancy, and nursing for two successive generations. This suggests that Triallate can cause reproductive effects at high doses.
Teratogenic effects: No birth defects were observed in the offspring of rabbits given Triallate doses of 5, 15, and 45 mg/kg/day on days 6 to 28 of pregnancy. These and other data indicate that Triallate is not teratogenic.
Mutagenic effects: No genetic changes occurred in tests using live animals (fruit flies, hamsters, and mice). In tests using bacterial and animal cell cultures, both positive and negative results have been reported. This suggests that Triallate is either nonmutagenic or weakly mutagenic.
Carcinogenic effects: Several long-term feeding studies showed no incidence of tumors. Triallate did not produce tumors in rats fed up to 12.5 mg/kg/day for 2 years. No tumors appeared when hamsters were fed dietary doses of up to 100 mg/kg Triallate for 22 months. These data indicate that Triallate is not carcinogenic.
Organ toxicity: Changes in the cellular processes of the brain, liver and spleen were observed in pigs given triallate. Studies on other species have indicated the thymus, kidneys and reproductive organs are potential targets as well.
Fate in humans and animals: In general, thiocarbamates, the chemical class in which Triallate is included, are rapidly absorbed into the bloodstream from the gastrointestinal tract, readily broken down into metabolites, and then excreted by treated animals. It is rarely possible to detect thiocarbamates in the blood. A single oral dose of 500 mg/kg of Triallate was rapidly absorbed from the gastrointestinal tract of rabbits. It was then found to be present in all organs tested within 15 to 20 minutes after dosing. The largest amount of the herbicide accumulated in the liver, lungs, kidneys, and spleen. All traces were gone by the 7th day. Triallate was reported to be completely eliminated from the body of rabbits within 7 to 10 days. This product may affect gastrointestinal system, skin.
Major Health Hazards: Technical Triallate is harmful by ingestion and practically nontoxic via dermal exposure or inhalation. Inhalation exposure to large amounts of thiocarbamates may cause itching, scratchy throat, sneezing, and coughing. Triallate is moderately irritating to the skin and is a mild eye irritant.may be fatal if swallowed and enters airways, may cause an allergic skin reaction, may cause damage to organs through prolonged or repeated exposure,

repeated exposure may cause skin dryness or cracking. This product is a cumulative poison. Minor exposures over a period of time may lead to serious health problems.

Classification of Hazardous Ingredients

Ingredient	Health Hazard Statement Codes
Tri-allate	H302, H373, H317, H410

- Acute toxicity – category 4
- Specific target organ toxicity (repeated exposure) – category 2
- Skin sensitisation – category 1
- Hazardous to the aquatic environment (acute) – category 1
- Hazardous to the aquatic environment (chronic) – category 1

Aromatic Hydrocarbons	H304, AUH066

- Aspiration hazard – category 1

Potential Health Effects

Inhalation:
Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.
Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:
Short Term Exposure: Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition product may be irritating, but is unlikely to cause anything more than mild transient discomfort.
Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:
Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.
Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:
Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.
Long Term Exposure: Long term minor exposures to this product may cause serious health effects.

Carcinogen Status:
SWA: No significant ingredient is classified as carcinogenic by SWA.
NTP: No significant ingredient is classified as carcinogenic by NTP.
IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

This product is very toxic to aquatic life with long lasting effects. This product is not readily biodegradable; it may accumulate in the soil or water and cause long term problems.
Effects on birds: Triallate is slightly toxic to relatively nontoxic to birds. The acute oral LD50 for Triallate in bobwhite quail is 2251 mg/kg. The 8-day dietary LD50 is greater than 5000 ppm in both mallards and bobwhite quail.
Effects on aquatic organisms: Triallate is highly toxic to fish and other aquatic organisms. The 48-hour EC50 in Daphnia magna, is 0.06 to 0.10 mg/L for the 95% technical material and the LC50 is 0.05 to 0.07 mg/L for the 46% emulsifiable concentrate. The 96-hour LC50 in algae is 0.12 mg/L. The 96-hour LC50 for technical material has been reported as 0.62 mg/L in rainbow trout (1.0 mg/L for the emulsifiable concentrate), and 1.7 mg/L in channel catfish (1.1 mg/L for the emulsifiable concentrate). When technical Triallate concentrations were measured in bluegill sunfish over a 7-week period, marked bioaccumulation occurred. The concentration in the fish was 1600 times the ambient water concentration. However, after 2 weeks in water without triallate, the compound was nearly completely eliminated by the fish.
Effects on other organisms: Triallate is nontoxic to bees.
Environmental Fate:

Breakdown in soil and groundwater: Triallate has a moderate persistence in the soil environment. It adsorbs strongly to loam and clay soils and is not readily dissolved in water. This indicates that Triallate is not likely to move through the soil, even though it has an average soil half-life of 82 days. However, if there is significant moisture and/or a low level of organic matter in the soil, leaching and groundwater contamination may be possible.
Breakdown in water: Triallate is stable to ultraviolet degradation and will probably be found adsorbed to suspended sediment in the water column or in hydrosoils due to its slight water solubility and its ability to bind to particulates. Typical breakdown times in hydrosoils may be longer than in terrestrial systems due to lower oxygen availability for microbial degradation.
Breakdown in vegetation: Studies indicate that Triallate does not bioaccumulate in plants. Triallate is absorbed and metabolized by plants.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.

Section 14 - Transport Information

Not subject to the ADG Code when transported by Road or Rail in Australia, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by Air or Sea transport (see details below).

UN Number: 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazchem Code: •3Z
Special Provisions: 179, 274, 331, 335, AU01
Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.
Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.
Packing Group: III
Packing Instruction: P001, IBC03, LP01

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with AICIS regulations.
The following ingredient: Tri-allate, is mentioned in the SUSMP.

Section 16 - Other Information

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

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)
AICS/AIIC	Australian Inventory of Industrial Chemicals
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document “Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice” (July 2020) and GHS Revision 7

http://www.kilford.com.au/ Phone (02)8321 8866