MATERIAL SAFETY DATA SHEET

SECTION 1
IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Apparent Triallate 500 Herbicide

Other Names: Triallate, a thiocarbamate chemical herbicide, Group E Herbicide.
Use: A liquid pre-emergent wild oats agricultural herbicide.
Company: Apparent Pty Ltd
Address: Suite G.08 762 Toorak Road, Glen Iris, Vic 3146
          PO Box 3092, Cotham PO, Kew, Vic 3101
ACN/ABN: 143 724 136
Telephone Number: 03 9822 1321 Fax Number: 03 9817 7845
Emergency Contact: 0411 227 338
Email: wwardell@bigpond.net.au

SECTION 2
HAZARDS IDENTIFICATION

Classified as hazardous according to criteria of Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code

Risk Phrases:
R22 Harmful if swallowed.
R43 May cause sensitization by skin contact.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases:
S2 Keep out of reach of children.
S13 Keep away from food, drink and other animal foodstuffs.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S46 If swallowed, seek medical advice immediately and show this container or label.

SECTION 3
COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>CAS NUMBER</th>
<th>PROPORTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triallate</td>
<td>2303-17-5</td>
<td>500 g/L</td>
</tr>
<tr>
<td>Liquid hydrocarbons</td>
<td>various</td>
<td>30 – 60 % w/w</td>
</tr>
<tr>
<td>Other ingredients determined not to be hazardous</td>
<td></td>
<td>Balance</td>
</tr>
</tbody>
</table>

SECTION 4
FIRST AID MEASURES

FIRST AID

Ingestion: If swallowed do NOT induce vomiting, seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. Wash mouth with water and then drink plenty of water.

Eye contact: If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. If irritation occurs and persists seek medical advice.
SECTION 4  FIRST AID MEASURES (Continued)

Skin contact: Remove contaminated clothing and wash skin with soap and water. If irritation occurs and persists, seek medical advice. Launder contaminated clothing before re-use.

Inhalation: Remove to fresh air and observe until recovered. If effects persist, seek medical advice.

Advice to Doctor: Treat symptomatically. This product also contains aromatic solvents which may produce a chemical pneumonitis; therefore, vomiting is not recommended, and lavage requires intubation. Activated charcoal and cathartics will assist gastrointestinal tract evacuation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

SECTION 5  FIRE FIGHTING MEASURES

Extinguishing media: Combustible liquid (C1). Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained. Contain all runoff.

Hazards from combustion products: Product will decompose when burnt and will emit toxic fumes. Fire-fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or smoke.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or vapours generated. Stop all fire water from entering drains or water bodies.

SECTION 6  ACCIDENTIAL RELEASE MEASURES

Emergence procedures / Material and methods for containment and cleanup procedures:

Accidental release: In case of spillage, contain and absorb spilled material with absorbent material such as clay, sand or cat litter and dispose of waste as indicated. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow length PVC gloves and face shield or goggles.

In the case of spillage, stop leak if safe to do so, and contain spill. Contain spill and sweep up and shovel or pump recoverable material into labelled containers for use, recycling or dispose as waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Keep out animals and unprotected persons. This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

SECTION 7  HANDLING AND STORAGE

Precautions for Safe Handling: No smoking, eating or drinking should be allowed where material is used or stored. When preparing spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow length PVC gloves and face shield or goggles.

Conditions for Safe Storage: Not classified as a Dangerous Good. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations. Store in the closed, original container in a well ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight.

SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: No exposure guidelines have been established for this product by Safe Work Australia.

Biological Limit Values: No biological limit allocated.
SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Engineering controls:
Use in ventilated areas adequate to keep exposure below the TWA, generally natural ventilation is adequate. Keep containers closed when not in use.

Personal Protective equipment (PPE):
General: When preparing spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow length PVC gloves and face shield or goggles. May irritate the eyes and skin. Avoid contact with eyes, skin and clothing.
Respiratory Protection: Generally not required. Use of a respirator may be required in certain circumstances to protect from inhalation of spray mist. Do not inhale spray mist.

SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Amber to brown coloured liquid.
Melting point: Not available.
Freezing point: Not available.
Specific Gravity: 1.05.
Solubility in Water: Emulsifies in water.
pH: No data available.
Flammability: Combustible liquid.
Corrosive hazard: Not corrosive.
Flash point (°C): > 62°C – < 150°C.
Flammability Limits (%): Not established.
Poisons Schedule: S5.

SECTION 10  STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.
Conditions to avoid: Do not store for prolonged periods in direct sunlight. Avoid heating the product to high temperatures.
Incompatible materials: Keep away from strong oxidising agents.
Hazardous decomposition products: If involved in fire it will emit oxides sulphur and other toxic and noxious gases.
Hazardous reactions: Hazardous polymerisation will not occur.

SECTION 11  TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Potential Health Effects:

ACUTE EFFECTS
Swallowed: Harmful if swallowed. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or other lung damage. Tri-allate LD₅₀ = 800 mg/kg (rat).
Eye: The concentrate will cause irritation of the eyes.
Skin: Will irritate the skin. Acute dermal LD₅₀ > 2000 mg/kg. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. May cause sensitisation by prolonged skin contact.
Inhaled: High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects. Acute inhalation LC₅₀ > 5.3 mg/L (Tri-allate).
SECTION 11  TOXICOLOGICAL INFORMATION (Continued)

Long Term Exposure:

Chronic toxicity: Liver and kidney damage has been noted in laboratory animals that have been fed excessive doses of triallate. Evidence from animal studies indicate that repeated or prolonged exposure to triallate can result in neurological effects.

Reproductive effects: No effects have been observed in the absence of maternal toxicity.

Carcinogenicity: Data indicates no carcinogenic effects.

SECTION 12  ECOLOGICAL INFORMATION

Environmental Toxicology: Tri-allate is toxic to fish and other marine organisms. Over 7 weeks marked bioaccumulation occurred in bluegill sunfish, but over a two week depuration period, tri-allate was rapidly and nearly completely eliminated.

<table>
<thead>
<tr>
<th>Species</th>
<th>Toxicity</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainbow trout</td>
<td>LC\textsubscript{50} = 1.2 mg/L (96 hour)</td>
<td>Moderate- high toxicity.</td>
</tr>
<tr>
<td>Daphnia</td>
<td>EC\textsubscript{50} = 0.43 mg/L (48 hour)</td>
<td>High toxicity.</td>
</tr>
<tr>
<td>Algae</td>
<td>EC\textsubscript{50} = 0.12 mg/L (96 hour)</td>
<td>High toxicity.</td>
</tr>
<tr>
<td>Bobwhite quail</td>
<td>LD\textsubscript{50} &gt; 2251 mg/kg</td>
<td>Very low toxicity.</td>
</tr>
</tbody>
</table>

Environmental Fate:
Under prolonged and extremely dry conditions, this product may persist for several months. The half-life in soil is 82 days. Tri-allate absorbs well to soil and has low solubility in water which indicates low movement in soils. However, in situations of high soil moisture conditions and/or low organic matter levels, tri-allate may become desorbed and more mobile.

DO NOT contaminate streams, rivers or waterways with the chemical or used container.

SECTION 13  DISPOSAL CONSIDERATIONS

Spills and Disposal: Persons involved in cleanup require adequate skin protection - see section 8. In case of spillage, contain and absorb spilled material with absorbent material such as clay, sand or cat litter and dispose of waste as indicated below or in accordance to the Australian Standard 2507-Storage and Handling of Pesticides. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers and product.

For refillable containers: Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SECTION 14  TRANSPORT INFORMATION

Road & Rail Transport: This product is exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082.
SECTION 14  TRANSPORT INFORMATION (Continued)

Marine and Air Transport: Apparent Clopyralid 300 Herbicide is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:- UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Clopyralid). Hazchem code ●3Z. Hazard Identification Number (HIN) 90.

SECTION 15  REGULATORY INFORMATION

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 5 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 67079

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn Harmful; Xi: Irritant.

This product is exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Ed).

SECTION 16  OTHER INFORMATION

Issue Date: 15 February 2012. (First issue).

Key to abbreviations and acronyms used in this MSDS:
ADG Code   Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
Carcinogen An agent which is responsible for the formation of a cancer.
Genotoxic: Capable of causing damage to genetic material, such as DNA.
HSIS:        Hazardous Substances Information System.
Lacrimation: The production, secretion, and shedding of tears.
Lavage:     A general term referring to cleaning or rinsing.
Mutagen:    An agent capable of producing a mutation.
Myotoxic:   Having or being a toxic effect on muscle.
OCS         Office of Chemical Safety.
PPE         Personal protective equipment.
Teratogen    An agent capable of causing abnormalities in a developing foetus.
TWA         The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End MSDS