SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Apparent Terbutryn 500 SC Herbicide**

Other Names: Terbutryn, Group C Herbicide.
Use: Agricultural herbicide for the control of broadleaf weeds in crops.
Company: Apparent Pty Ltd
Address: Suite G.08, 762 Toorak Rd, Glen Iris, Vic. 3146.
ACN/ABN: 143 724 136
Telephone Number: 03 9822 1321
Email: enquiries@apparentag.com.au
Emergency Contact: 0411 227 338

SECTION 2 HAZARDS IDENTIFICATION

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

Not subjected to the ADG code when transported in Australia by Road or Rail in packages 500 kg (L) or less; or in IBC's (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See Section 14 of this SDS for details.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	*CAS NUMBER*	*PROPORTION*
Terbutryn	886-50-0	500 g/L
Other ingredients determined not to be hazardous		balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If swallowed, do not induce vomiting. Give a glass of water. If any discomfort persists seek medical advice.

Eye contact: If in eyes, hold eyes open and flood with clean water until chemical is removed. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

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

Inhalation: Remove to fresh air and observe until recovered. If effects persist, seek medical advice. Not expected to be a source of over-exposure.

Advice to Doctor: Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Generally considered a low risk. Not flammable.

Extinguishing media: Not flammable. Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff.

SECTION 5 FIRE FIGHTING MEASURES (Continued)

Hazards from combustion products: Product is unlikely to decompose until heated to dryness. On further heating will emit toxic fumes. Low risk of explosion if involved in a fire.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or smoke. Do not breathe smoke or vapours generated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures: In the event of a major spill, prevent spillage from entering drains or water courses. For major spills, wear cotton overalls buttoned at the neck and wrist and elbow-length PVC gloves.

In the case of spillage, stop leak if safe to do so, and contain spill. Prevent spillage entering drains or watercourses. Contain and absorb spilled material with absorbent material such as sand, clay, cat litter or material such as vermiculite. Collect recoverable product for use as labelled on the product.
Vacuum, shovel or pump contaminated spilled material into an approved container and dispose of waste as per the requirements of Local or State Waste Management Authorities. Keep out animals and unprotected persons. Launder protective clothing before storage or re-use.

Material and methods for containment and cleanup procedures: To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

This product is a herbicide and spills can damage crops, pastures and desirable vegetation. Prevent from entering drains, waterways or sewers. Use earthen bunds or absorbent bunding to prevent spreading of spillage.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: No smoking, eating or drinking should be allowed where material is used or stored. Harmful if swallowed. Avoid contact with the skin. Repeated exposure may cause allergic disorders. When using the product wear elbow-length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves.

Conditions for Safe Storage: 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. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: No exposure standard for terbutryn has been established by Safe Work Australia.

Biological Limit Values:
No biological limit allocated.

Engineering controls:
Keep containers closed when not in use. No special engineering controls are required, however make sure that the work environment remains clean and that vapours are minimised.

Personal Protective Equipment (PPE):
When using the product wear elbow-length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves.

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Opaque liquid.
Odour:	Faint mild odour.
Boiling point:	No data available.
Freezing point:	No data available.
Specific Gravity:	Approximately 1.1.
Solubility in Water:	Suspends in water.
pH:	No data available.
Flammability:	Non flammable, non combustible liquid.
Flashpoint (°C):	Not flammable.
Poisons Schedule:	This product is a Schedule 5 (S5) poison.
Formulation type:	Suspension Concentrate (SC).

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.

Incompatible materials: Strong acids, strong bases and strong oxidising agents.

Hazardous decomposition products: Product is likely to decompose after heating to dryness and continued strong heating and will emit toxic fumes.

Hazardous reactions: 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: Low acute oral toxicity; the acute oral LD_{50} (rat) > 2000 mg/kg (Terbutryn).

Eye: The concentrate may cause eye irritation.

Skin: Not a skin irritant. The dermal LD_{50} (rabbit) > 2000 mg/kg (Terbutryn). Not a skin sensitiser.

Inhaled: Acute inhalation LC_{50} > 2.2 mg/L/4 hour (Terbutryn). Avoid inhalation of spray mists as respiratory irritation may occur.

Long Term Exposure:
Chronic toxicity: No data available on this formulation. In studies with laboratory animals, no mutagenic effects were observed. The weight of evidence indicates that terbutryn is not carcinogenic.

Reproductive effects: A three generation reproduction study of rats showed that doses of 150 mg/kg/day of terbutryn caused decreased fertility indices in both male and female rats.

Organ toxicity: Long-term feeding at high doses of terbutryn can cause growth retardation, kidney damage, liver damage and a decreased number of white blood cells.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: Terbutryn is only slightly toxic to birds. The LC_{50} (8-day dietary) >20,000 mg/kg for bobwhite quail and pheasant and > 4640 mg/kg for mallard ducks. Terbutryn is not toxic to bees LD_{50} > 100 µg/bee. Terbutryn is moderately toxic to fish LC_{50} (96 hr) = 1.14 mg/L for Rainbow trout. LC_{50} (48 hr) = 2.66 mg/L for *daphnia magna*. The concentration which is lethal to fish in water, the LC_{50} (96 hours), is 3 mg/kg for rainbow trout and 4 mg/kg for bluegill sunfish, carp, and perch. Toxic to algae EC_{50} (72hr) = 2.4 µg/L for *Pseudokirchneriella subcapitata*.

SECTION 12 ECOLOGICAL INFORMATION (Continued)

Environmental Fate: Terbutryn is readily adsorbed in soils with high organic or clay content. The half-life in soil is 14-28 days. Depending on the application rate, the residual activity of terbutryn in soil is 3 to10 weeks. It is slightly mobile to immobile in soils. Data indicate that it will not leach in agricultural soils. In water, terbutryn is not volatile. It will adsorb to sediment and suspended particulate matter. Half-lives of 180-240 days have been reported for degradation of terbutryn in pond and river sediment. It may be subject to very slow hydrolysis and biodegradation in water.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills and Disposal: Persons involved in cleanup require adequate skin protection - see Section 8. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®). Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple-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 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 or product.

DrumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

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. (See special provision AU01). It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

Marine and Air Transport: This product 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 Terbutryn). 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. 68666.
This product is not classified as a Hazardous Substance under the criteria of Safe Work Australia.
This product is not classified as a Dangerous Good according to the ADG Code (7th Ed) in Code in packages 500 kg (L) or less; or in IBC's (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply. This product is classified as a Dangerous Good according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).
Requirements concerning special training:
Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 9 July 2019. Valid for 5 years till 9 July 2024. (5 year review).

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.
HCIS: Hazardous Chemical 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.
Pneumonitis: A general term that refers to inflammation of lung tissue.
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

1. "Hazardous Chemicals Information System". Safe Work Australia HCIS website. (2019).
2. "Classifying Hazardous Substances" Safe Work Australia. August 2018.
3. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). United Nations, 2009.

This SDS 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 SDS 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 SDS