



SAFETY DATA SHEET

SECTION 1

IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Apparent Clethodim 360 Herbicide

Other Names: Clethodim, cyclohexanedioneoxime derivative,
Use: A selective agricultural liquid herbicide.
Company: AIRR Apparent Pty Ltd
Address: 15/16 Princes Street, Newport NSW 2106.
Phone Number: 03 5820 8400
Email: enquiries@apparentag.com.au
Emergency Contact: 0437 303 689

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.
Combustible Liquid (C1).**

Globally Harmonised System (GHS) classification of the substance/mixture:

Flammable Liquids – Hazard Category 4
Acute Toxicity – Oral: Hazard Category 4.
Aspiration Hazard: Hazard Category 1.
Sensitization – Respiratory: Hazard Category 1.
Hazardous to the Aquatic Environment – Acute Hazard: Category 2.
Hazardous to the Aquatic Environment – Long Term (Chronic) Hazard: Hazard Category 3.

Signal Word: DANGER.

Hazard Statements:

H227 Combustible Liquid.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long-lasting effects.
AUH066 Repeated exposure may cause skin dryness and cracking.

Precautionary statements:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P261 Avoid breathing mist, vapours or spray.
P264 Wash hands, arms and face 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/eye protection/face protection/ hearing protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment see Safety Directions on product label.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use carbon dioxide, dry chemical or foam for extinction.

SECTION 2**HAZARDS IDENTIFICATION****Storage:**

- P403 Store in a well ventilated space.
P405 Store locked up.

Disposal:

- P501 Dispose of contents/container in accordance with national regulations

Pictograms:**SECTION 3****COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients:**

CHEMICAL	CAS NUMBER	PROPORTION
Clethodim	99129-21-2	360 g/L
Aromatic hydrocarbons	64742-94-5	570 g/L
Other ingredients determined not to be hazardous		Balance

SECTION 4**FIRST AID MEASURES****FIRST AID**

- Ingestion:** If swallowed do NOT induce vomiting. Give a glass of water. If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 131 126.
- Eye contact:** Immediately hold eyes open and flood with clean water. 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:** Remove contaminated clothing. Wash skin with soap and water. If skin is irritated, seek medical advice.
- Inhalation:** Remove to fresh air and observe until recovered. If effects persist, seek medical advice.
- Advice to Doctor:** Treat symptomatically. The principal hazard is aspiration of the solvent into the lungs resulting in chemical pneumonitis.

SECTION 5**FIRE FIGHTING MEASURES**

Specific Hazard: This product is a C1 combustible liquid. Flash Point > 61°C

Extinguishing media: Use carbon dioxide, dry chemical or foam. If no alternative, use water fog and contain all run off. Violent steam generation or eruption may occur if directed water stream is applied on hot liquids. If containers are ruptured 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.

SECTION 6**ACCIDENTAL RELEASE MEASURES****Emergency procedures:**

Extinguish all sources of ignition. 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, washable hat, elbow length PVC gloves and face shield or goggles. If there is a significant chance that vapours or mists are

SECTION 6 ACCIDENTAL RELEASE MEASURES (Continued)

likely to build up in the cleanup area, the use of a respirator is recommended. In the case of spillage, stop leak if safe to do so, and contain spill.

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. 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.

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. Will irritate the eyes and skin. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length chemical resistant gloves and face shield or goggles. If product in eyes, wash it out immediately with water. 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 and face shield or goggles and contaminated clothing.

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. Protect from frost. This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to state regulations for storage and transport requirements. Do not store or use near naked flame, or heat sources. Do not cut or weld container. Not classified as a Dangerous Good.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines:**

No exposure limits have been assigned by Safe Work Australia to the ingredients in this product.

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 and mists are minimised.

Personal Protective Equipment (PPE):

General: When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, washable hat, elbow length PVC gloves and face shield or goggles. After each day's use, wash contaminated clothing, gloves and face shield or goggles.

Personal Hygiene: Harmful if swallowed. Will irritate the eyes and skin. 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:	Clear amber liquid.
Odour:	Aromatic odour.
Boiling point:	No data available.
Freezing point:	No data available.
Solubility in Water:	Emulsifies in water.
pH:	No data available.
Flammability:	Combustible liquid.
Flashpoint (°C):	> 61°C.
Poisons Schedule:	This product is a Schedule 5 (S5) poison.
Formulation type:	Emulsifiable Concentrate (EC).

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 near naked flame or heat sources. Unstable at extreme pH's.

Incompatible materials: Strong oxidizing agent such as chlorates, nitrates, peroxides etc.

Hazardous decomposition products: This product will decompose when burnt. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds and oxides, in some circumstances hydrogen cyanide gas.

Hazardous reactions: Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime. Polymerisation is unlikely.

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. Acute Oral LD₅₀ > 1630 mg/kg (male rats) and 1360 mg/kg (female rats).

Eye: The concentrate is irritating to the eyes. Prolonged contact with the concentrate may cause damage to the eye.

Skin: This product may be irritating to the skin. Acute dermal LD₅₀ > 5,000 mg/kg.

Inhaled: Inhalation of mists or sprays may produce respiratory irritation. Expected to be moderately toxic by inhalation.

Long Term Exposure:

This product contains a solvent mixture. Reports have associated repeated and prolonged occupational overexposures to solvents with permanent brain and nervous system damage. Symptoms reported include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. Since many other diseases cause some or all of these symptoms, a doctor should be consulted if any appear. Overall, this product is not expected to be a chronic hazard when used according to the label directions.

Studies with high doses of clethodim technical in mice, rats and dogs, indicated decreased body weights, increased liver size (increased liver weights and hypertrophy) and anaemia (decreased haemoglobin, hematocrit or erythrocyte counts). In chronic studies with clethodim technical in the mouse, rat and dog, similar effects as seen in sub chronic have been noted. No treatment related increases in neoplasms were observed in any study.

Teratology/development toxicity: Developmental toxicity in rats and rabbits was observed only at maternally toxic dose levels of clethodim technical.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Reproductive toxicity: No reproductive toxicity was observed in a study with rats exposed to clethodim technical for two generations.

Mutagenicity: Clethodim technical does not present any genetic hazard to intact animal systems.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: Low toxicity to birds. The dietary LC₅₀ in mallard ducks > 6000 mg/kg. Acute oral LD₅₀ bobwhite quail > 2000 mg/kg. Moderate toxicity to aquatic organisms. The reported 96-hour LC₅₀ values for rainbow trout is 67 mg/L and bluegill sunfish 120 mg/L. The 48-hour LC₅₀ for Daphnia (water flea), an important food source for freshwater fish, is 120 mg/L. The EC₅₀ (5 days) for fresh water algae is 57.8 mg/L. Low toxicity to honeybees contact LC₅₀ > 100 µg/bee. The reported LC₅₀ values for earthworms in soil is 454 mg/kg.

Environmental Fate: Clethodim is of low persistence in most soils with T_{1/2} 3 days. Breakdown is mainly by aerobic processes and photolysis is accepted as making a contribution to breakdown. In water, clethodim is highly persistent with half-lives of 128 days in the aqueous phase and 214 days in the sediment. The reported hydrolysis half life at pH 7-9 is 300 days. Clethodim is rapidly degraded on the leaf surfaces by an acid-catalysed reaction and photolysis. The remaining clethodim will rapidly penetrate the cuticle and enter the plant.

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. 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.

Do not cut or saw empty containers, as there is the possibility that fumes inside the container may be ignited and cause the container to explode.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: This product is not classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

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 with the Australian Pesticides and Veterinary Medicines Authority. APVMA number 80404.

SECTION 15 REGULATORY INFORMATION (Continued)

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

This product is not classified as a Dangerous Good according to the ADG Code (7th Ed).

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 November 2021. Valid for 5 years till 9 November 2026. (5 year

update). Key to abbreviations and acronyms used in this SDS:

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.

Hematocrit: the ratio of the volume of red blood cells to the total volume of blood

LD₅₀: Median Lethal Dose. A statistically derived single dose of a substance that can be expected to cause death in 50% of dosed animals.

Mutagen: An agent capable of producing a mutation.

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: Formerly known as Australian Safety & Compensation Council (ASCC) which was formerly known as the National Occupational Health & Safety Commission (NOHSC).

SECTION 16 OTHER INFORMATION (Continued)**References**

1. "Hazardous Chemicals Information System". Safe Work Australia HCIS website. (2021).
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