SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Apparent Pendimethalin 440 Herbicide**

Other Names:	Pendimethalin. Pendimethalin is a dinitroaniline compound.
Use:	A liquid pre-emergence grass herbicide.
Company:	AIRR Apparent Pty Ltd
Address:	15/16 Princes Street, Newport NSW 2106
ACN/ABN:	153 573 641
Email:	enquiries@apparentag.com.au
Emergency Contact:	0411 227 338

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).

* 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 a Dangerous Good (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See Section 14 of this SDS for details.

Globally Harmonised System (GHS) classification of the substance/mixture:
Aspiration Hazard: Hazard Category 1.
Sensitization – Skin: Hazard Category 1.
Hazardous to the Aquatic Environment – Acute Hazard: Hazard Category 1.
Hazardous to the Aquatic Environment – Long-Term Hazard: Hazard Category 4.
Flammable Liquids: Hazard Category 4.

Signal Word: DANGER.

Hazard Statements:
H227 Combustible liquid.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.
AUH066 Repeated exposure may cause skin dryness and cracking.

Precautionary Statements:
Prevention:
P210 Keep away from flames and hot surfaces. – No smoking.
P261 Avoid breathing mist, vapours or spray.
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.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment see Safety Directions on the product label.
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 before reuse.
P391 Collect spillage.

SECTION 2 HAZARDS IDENTIFICATION (Continued)

Storage:

P403 Store in a well-ventilated place.
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*
Pendimethalin	40487-42-1	440 g/L
Liquid hydrocarbon	64742-94-5	501 g/L
Other ingredients determined not to be hazardous		1 - 10%

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: If swallowed do NOT induce vomiting. Rinse mouth with water. 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 gently 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: Immediately remove contaminated clothing and 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 for more than about 30 minutes, seek medical advice.

Advice to Doctor: Treat symptomatically. The formulation contains petroleum distillate that can cause severe pneumonitis or fatal pulmonary oedema if aspirated. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise symptomatic and supportive.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Combustible liquid (C1) – flash point > 62°C. Hazchem code ●3Z.

Extinguishing media: 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: On burning will emit toxic fumes. Firefighters 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: 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. 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.

SECTION 6 ACCIDENTAL RELEASE MEASURES (Continued)

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.

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.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Keep out of reach of children. No smoking, eating or drinking should be allowed where material is used or stored. Contact with the concentrate will result in a yellow stain. Harmful if swallowed. Will irritate the eyes, nose, throat and skin. DO NOT inhale vapour. When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length nitrile gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, 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 heat, sparks, open flames, hot surfaces and direct sunlight. Keep away from strong oxidising agents. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations. This product is a combustible liquid (C1) and must be stored away from naked lights, heat sources and oxidising agents. Observe procedures detailed in Australian Standard AS1940 for flammable and combustible liquids.

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:
Use in ventilated areas where vapours and mists are able to accumulate. Keep containers closed when not in use. No special engineering controls are required.

Personal Protective Equipment (PPE):
General: When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow length nitrile gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water.

Personal Hygiene: Harmful if swallowed. Will irritate the eyes, nose, throat and skin. DO NOT inhale vapour. Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield (or goggles) and contaminated clothing. Shower at the end of the workday.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear black with yellow-orange tinged liquid.
Odour:	Petroleum type odour.
Boiling point:	183 – 210°C.
Freezing point:	No data available.
Specific Gravity:	Approximately 1.0 at 20°C.
Solubility in Water:	Emulsifies in water- emulsifiable concentrate formulation.
pH:	No data available.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES (Continued)

Flammability: Combustible liquid.
Corrosive hazard: Not corrosive.
Flashpoint (°C): > 62°C.
Poisons Schedule: Classified as a Schedule 5 (S5) poison.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture. Product is unlikely to react or decompose under normal storage conditions.

Conditions to avoid: Heat, sparks, open flames, hot surfaces. Do not store for prolonged periods in direct sunlight.

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: Hazardous decomposition products include carbon dioxide, carbon monoxide and nitrogen oxides.

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: The acute oral LD_{50} for technical Pendimethalin in rats is greater than 4,000 mg/kg. Swallowing can cause nausea, vomiting and central nervous system depression caused by the solvent in this product. If patient shows sign of central nervous system depression (like those of drunkenness) there is a greater chance of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung).

Eye: This formulated product may be irritating to the eyes. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Skin: The dermal LD_{50} for technical Pendimethalin in rats is > 2000 mg/kg. This product may be irritating to the skin. Product will have a degreasing action on the skin. Repeated or prolonged exposure may lead to irritant contact dermatitis.

Inhaled: The 4 hour inhalation LC_{50} for technical Pendimethalin (rats) is > 6.7 mg/L. Inhalation of mists or sprays may produce respiratory irritation. Breathing in vapours may result in headaches, dizziness and possible nausea. Breathing high concentrations can produce central nervous system depression, which can lead to loss of coordination, impaired judgement, and in circumstances of prolonged exposure, unconsciousness.

Long Term Exposure:

Chronic toxicity: *Pendimethalin:* No substance-specific organ toxicity was observed after repeated administration to animals. Adaptive effects were observed after repeated exposure in animal studies.

Solvent Naphtha: No adverse effects were observed after repeated exposure in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity: *Pendimethalin:* In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Solvent Naphtha: Long-term exposure to highly irritating concentrations resulted in skin tumors in animals. A carcinogenic effect in humans can be excluded after brief skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition

Other: Mutagenicity tests revealed no genotoxic potential. The results of animal studies gave no indication of a fertility impairing effect. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. These statements have been derived from the properties of the individual components. The product has not been tested.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No data is available on this product. The active ingredient, Pendimethalin is practically nontoxic to birds. The LC_{50} (8 day dietary) in bobwhite quail is 3149 mg/kg, and in mallard ducks > 10,900 mg/kg. Pendimethalin is highly toxic to fish and other aquatic organisms. The 96-hour LC_{50} in rainbow trout is 0.138 mg/L, and 0.199 mg/L in bluegill sunfish. Variables such as temperature, pH, life stage, or size may affect the toxicity of the compound. Pendimethalin is harmful to Daphnia with a 48-hour LC_{50} of 0.4 mg/L. Pendimethalin shows a low tendency to accumulate in aquatic organisms.

Environmental Fate: No data is available on this product. The active ingredient, Pendimethalin, is biodegradable. It does not accumulate in the soil or. Based on laboratory studies and limited field study information, pendimethalin is slightly to moderately persistent in aerobic soil environments. Persistence decreases with increased temperature, increased moisture and decreased soil organic carbon. Pendimethalin is practically insoluble in water. Pendimethalin has a half-life in soil of approximately 40 days.

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. 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.

EXPLOSION WARNING: “EMPTY” containers may contain liquid and/or vapour residue which can be explosive if exposed to an ignition source at temperatures above 90°C. Such conditions may occur during cutting or welding. DO NOT cut or weld these containers.

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 (3077). (See special provision AU01).

Marine and Air Transport: Product is 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 44% Pendimethalin). Hazchem code ●3Z. Hazard Identification Number (HIN) 90. Australian Standards Initial Emergency Response Guide No. 47.

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. 89253.
This product is 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 for packs less than 3000 litres (SP AU01) (7th Ed).
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: 3 August 2020. Valid for 5 years till 3 August 2025. (First issue).

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.
Combustible Liquid:	Liquids that ignite with a flash point greater than 60°C.
Genotoxic:	Capable of causing damage to genetic material, such as DNA.
Mutagenic:	Able to produce a mutation (a change in the genetic material of cells).
Oedema:	Accumulation of fluid in tissues.
PPE:	Personal protective equipment.
Safe Work Australia:	Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).
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.

References

1. “Hazardous Chemicals Information System”. Safe Work Australia HCIS website. (2020).
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