SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Apparent Panther Selective Herbicide**

Other Names:	Diflufenican plus MCPA. Groups F & I Herbicide.
Use:	An agricultural cereal and clover herbicide.
Company:	Apparent Pty Ltd.
Address:	Suite G.08, 762 Toorak Road, Hawthorn East, Vic. 3123 PO Box 3092, Cotham PO, Kew, Vic 3101
ACN/ABN:	143 724 136
Telephone Number:	03 9822 1321
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).

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

Flammable liquids: Category 4.
Hazardous to the Aquatic Environment – Long-Term Hazard: Category 3.
Toxic to Reproduction: Category 1.
Skin Corrosion/Irritation: Category 2
Specific Target Organ Toxicity (Single Exposure): Category 3.
Eye Damage/Irritation: Category 2B.

Signal Word: DANGER.

Hazard statements:

H227 Combustible liquid.
H315 Causes skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.
H360 May damage fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from flames and hot surfaces. – No smoking.
P261 Avoid breathing mist, vapours or spray.
P264 Wash hands, arms and face thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P281 Use personal protective equipment as required.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

SECTION 2 HAZARDS IDENTIFICATION (Continued)

Response (Continued):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention:
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment see Safety Directions on the product label.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and Wash before reuse.
P370 + P378	In case of fire: Use carbon dioxide, foam or dry agent for extinction.

Storage:

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
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*
MCPA as the ethyl hexyl ester	29450-45-1	250 g/L
Diflufenican	83164-33-4	25 g/L
N-Methyl-2-pyrrolidone	872-50-4	150 g/L
Liquid Hydrocarbons	-	325 g/L
Other ingredients (including water) 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 131 126. If swallowed do NOT induce vomiting. Wash mouth out with water and give water to drink.

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 attention.

Skin contact: Remove contaminated clothing. Wash skin with soap and water. If skin is irritated and persists, seek medical advice.

Inhalation: Remove to fresh air and observe until recovered. If irritation or symptoms persists more than about 30 minutes, seek medical advice.

Advice to Doctor: Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Combustible liquid (C1) – Flash point 74°C.

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.

SECTION 5 FIRE FIGHTING MEASURES (Continued)

Hazards from combustion products: There is a risk of an explosion from this product if commercial quantities are involved in a fire. On heating 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, a washable hat, 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. 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: Harmful if swallowed. Will damage eyes. Will irritate the skin. Avoid contact with eyes and skin. When opening container and preparing spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow length PVC 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, face shield or goggles and contaminated clothing.

Conditions for Safe Storage: 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 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. Not classified as a Dangerous Good by the ADG. 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:
Exposure guidelines have been established for N-methyl pyrrolidone by Safe Work Australia and the manufacturer recommends the following Exposure level (PEL) for Diflufenican 2.3 mg/m³.

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m³)
N-methyl pyrrolidone	1.3 mg/m³	309 mg/m³

TWA = Time-weight Average. STEL =

Biological Limit Values:
No biological limit allocated.

Engineering controls:
Use in ventilated areas. Keep containers closed when not in use. No special engineering controls are normally required.

Personal Protective Equipment (PPE):
When opening container and preparing spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

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, face shield or goggles and contaminated clothing.

Personal Hygiene: Harmful if swallowed. Will damage eyes. Will irritate the skin. Avoid contact with 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, dark brown liquid.
Odour:	Distinctive strong ester odour.
Boiling point:	No data available.
Freezing point:	No data available.
Solubility in Water:	Emulsifies in water.
pH:	No data available.
Flammability:	Combustible Liquid (C1).
Flash point:	74.5°C
Poisons Schedule:	This product is a schedule 5 (S5) poison.
Specific Gravity:	0.99.
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: Keep away from strong oxidizing agents.

Incompatible materials: Avoid contact with rubber.

Hazardous decomposition products: When burnt will emit toxic and noxious fumes. Will not polymerise.

Hazardous reactions: Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime. May produce an exothermic reaction with strong acids or alkalis.

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. Acute Oral LD_{50} 1580 mg/kg (rat) (similar formulation). Possible symptoms of exposure include: nausea, vomiting and gastrointestinal discomfort and diarrhoea.

Eye: This product will cause severe irritation to the eyes. Possible eye damage if not washed off immediately.

Skin: This product will irritate the skin and may be sensitising to sensitive individuals. Acute dermal LD_{50} > 2,000 mg/kg (rat) (similar formulation). Repeated exposure Repeated exposure to the solvent in this product may cause skin dryness or cracking.

Inhaled: Inhalation of mists or sprays may cause respiratory irritation of the mucous membranes of the nose and mouth.

Chronic toxicity: Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive. In animal studies, N-methyl-pyrrolidone showed a developmental toxic effect in high doses which are maternally toxic.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Safe Work Australia has classified N-Methyl-Pyrrolidone in the occupational environment as a reproduction category 2 substance – which indicates that there is sufficient evidence to provide a strong presumption that human exposure to the substance may result in impaired fertility.

Reproductive Toxicity: Data indicates no reproductive effects.

Mutagenicity: Data indicates no mutagenic effects.
Organ toxicity: Target organs identified in animal studies include the liver, kidneys, spleen and thymus. Farm worker exposure has resulted in reversible anaemia, muscular weakness, digestive problems, and slight liver damage.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No data is available on this product. Dangerous to fish. Low hazard to bees and earthworms. Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from such causes as nitrate poisoning. Do not contaminate streams, rivers or waterways with the chemical or used containers.

Species	MCPA ethyl hexyl ester	Diflufenican
Rainbow trout	LC_{50} = 50 – 560 mg/L	LC_{50} = 109 µg/L
Bobwhite quail	LC_{50} = 377 mg/kg	LC_{50} > 2150 mg/kg
Daphnia magna	LC_{50} (48 hr) > 190 mg/L	LC_{50} > 240 µg/L
Algae toxicity	EC_{50} > 392 mg/L	LC_{50} > 10 mg/L

Environmental Fate: MCPA ethylhexyl ester hydrolyses rapidly in natural waters and soil water mixtures. DT_{50} in soil < 7 days. MCPA readily leaches in most soils, but its mobility decreases with increasing organic matter. MCPA and its formulations show little affinity for soil.
Diflufenican is not readily biodegradable. Bioconcentration factor = 1.596. DT_{50} = 85 – 282 days depending on soil type and water content. N-methyl-pyrrolidone is readily biodegradable.

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 non re-fillable 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.

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 in containers less than 3000 litres. Bulk shipments should use UN 3082, as per below.

Marine and Air Transport: Apparent Panther Selective Herbicide 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 MCPA 2 EHE).

SECTION 14 TRANSPORT INFORMATION (Continued)

Hazchem ●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. 66925.
This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn harmful; Xi irritant.
This product is not classified as a Dangerous Good by the ADG in packages less than 3000 L.
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: 21 August 2016. Valid for 5 years till 21 August 2021. (5 year update + GHS).

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.
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.
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. “Search Hazardous Substances”. HSIS - Safe Work Australia website. (2016).
2. “Approved Criteria for Classifying Hazardous Substances” 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
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