SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Apparent Oxyfluorfen 240 Herbicide**

Other Names:	Oxyflurofen. Group G Herbicide. A diphenyl-ether herbicide.
Use:	A selective agricultural emulsifiable concentrate 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.
Aspiration Hazard: Category 1.
Toxic to Reproduction: Category 1B.
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.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H320 Causes eye irritation.
H335 May cause respiratory irritation.
H360 May damage fertility or the unborn child.

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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P281 Use personal protective equipment as required.

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.
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 this label).
P331	Do NOT induce vomiting.
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 foam, carbon dioxide, 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*
Oxyflurofen	42874-03-3	240 g/L
Liquid Hydrocarbon	64742-94-5	606 g/L
N-methyl pyrrolidone	872-50-4	108 g/L
Other ingredients determined not to be hazardous		Balance

Trace quantities of impurities are possible.

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 advice.

Skin contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. If skin is irritated, 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: Oxyfluorfen has generally low acute toxicity. Inert ingredients contain 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 Treat symptomatically. No specific antidote is available.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: This product is a combustible liquid (C1). Flash point 98°C.

SECTION 5 FIRE FIGHTING MEASURES (Continued)

Extinguishing media: Extinguish fire using foam, carbon dioxide, or dry agent. If waterspray is used, contain all runoff. Contain all runoff.

Hazards from combustion products: Will produce toxic and noxious vapours (eg. Hydrogen chloride, carbon monoxide and hydrogen fluoride) when burnt. There is a risk of containers exploding if large quantities are involved in a fire. Will not polymerise.

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, washable hat, elbow length butyl rubber gloves and 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: No smoking, eating or drinking should be allowed where material is used or stored. Wear protective equipment to prevent skin and eye contamination. Will damage eyes and will irritate the skin. Avoid contact with eyes and skin. When opening the container and preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow length Butyl Rubber gloves and 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, goggles and contaminated clothing.

Conditions for Safe Storage: Store product in the closed, original container in a cool, well ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight.

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. This product is a Schedule 5 Poison (S5) and must be stored in accordance with the relevant Health Department regulations. Apparent Oxyfluorfen 240 Herbicide is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail in in packs less than 3,000 litres.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

Exposure guidelines have been established for N-methyl pyrrolidone by Safe Work Australia.

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m³)
N-methyl pyrrolidone (Skin*)	1.03 mg/m³ (25 ppm)	309 mg/m³ (75 ppm)

TWA = Time-weight Average STEL = Short term Exposure Limit

* The 'skin' notation refers to the potential for dermal absorption of the material including mucous membranes and the eyes by contact with vapours or direct skin contact.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Biological Limit Values:
No biological limit allocated.

Engineering controls:
Use in ventilated areas to keep airborne levels below the exposure guidelines. Keep containers closed when not in use.

Personal Protective Equipment (PPE): When opening the container and preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow length Butyl Rubber gloves and 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, goggles and contaminated clothing.

Personal Hygiene: Will damage eyes and 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:	Amber liquid.
Odour:	Sweet odour.
Boiling point:	No data available.
Freezing point:	No data available.
Specific Gravity:	1.1 ± 0.1.
Solubility in Water:	Emulsifies in water. Not soluble.
pH:	7 to 7.5.
Flashpoint (°C):	98°C.
Flammability:	Combustible liquid (C1).
Poisons Schedule:	S5.
Formulation type:	Emulsifiable 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: Avoid heat sources - combustible liquid (C1).

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

Hazardous decomposition products: None under normal conditions. In a fire toxic and noxious gases are likely to be released.

Hazardous reactions: Material is not known to polymerize.

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 toxicity, however if swallowed in large amounts the liquid hydrocarbon/N-methyl pyrrolidine content may cause injury. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. The estimated Acute Oral LD_{50} (rat) > 2000 mg/kg.

Eye: This product may be irritating to the eyes. May cause slight corneal injury. Vapour may cause eye irritation experienced as discomfort and redness.

Skin: This product is irritating to the skin causing pain and redness. Skin contact may cause allergic skin reaction. The estimated dermal LD_{50} > 2000 mg/kg.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Inhaled: Inhalation of mists or sprays may produce respiratory irritation. Due to the liquid hydrocarbon content inhalation may cause central nervous system effects. Excessive exposure effect may include anaesthetic or narcotic effects; dizziness and drowsiness.

Long Term Exposure: In animal studies, oxyfluorfen has shown no evidence of mutagenic effects.

Teratogenic effects: In a developmental study with rabbits, 30 mg/kg/day, the highest dose tested, produced an increase in fused sternal bones in the foetuses as well as toxic effects on the mothers. These data suggest oxyfluorfen may have teratogenic effects, but only at very high doses.

Carcinogenic effects: In a 20-month study with mice doses at and above 3 mg/kg/day produced non-significant increases in both benign and malignant liver tumours in male mice. No increased tumour formation was seen in female mice at any dose. No carcinogenic effects were observed in a 2-year study with rats fed doses 2 mg/kg/day, nor in dogs at doses of 3 mg/kg/day. These data suggest that Oxyfluorfen is not carcinogenic.

Organ toxicity: The liver appears to be the main target organ, based on long-term feeding studies.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No information is available for the product. The following information refers to the active ingredient, oxyfluorfen. Oxyfluorfen is practically non-toxic to birds. The oral LD_{50} is greater than 2000 mg/kg for bobwhite quail and 4000 mg/kg for Mallard ducks. The dietary LC_{50} (8 day) is greater than 5000 mg/kg for bobwhite quail and 4000 mg/kg for Mallard ducks. Oxyfluorfen is highly toxic to fish and aquatic organisms. The LC_{50}, the concentration in water at which half of the test animals died, ranges from 32 to about 410 µg/L. Oxyfluorfen is not toxic to bees. DO NOT contaminate streams, rivers or water courses with product or used containers.

Environmental Fate: No information is available for the product. The following information refers to the active ingredient, oxyfluorfen. The half-life of oxyfluorfen in soil is 30-40 days depending on the soil. Oxyfluorfen is not subject to microbial degradation or hydrolysis. Degradation is by photo-degradation and evaporation/co-distillation in moist soils. Oxyfluorfen is strongly absorbed to soil and not readily mobile. Oxyfluorfen degrades rapidly in water by light.

SECTION 13 DISPOSAL CONSIDERATIONS

1. After Spill or Accident:
Clear area of all unprotected personnel. Wear full protective clothing and equipment including chemical resistant butyl rubber gloves (see Section 8). Dispose of drummed waste and decontamination solution in accordance with the requirements of Local Authorities or State Waste Management Authorities. Prevent spill from spreading or entering waterways, sewers or underground drains.

2. Disposal of empty containers after intended use:
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.

DO NOT burn, cut or saw empty containers, as there is the possibility that fumes inside the container maybe ignited and cause the container to explode.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: Apparent Oxyfluorfen 240 Herbicide 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).

SECTION 14 TRANSPORT INFORMATION (Continued)

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 24% Oxyfluorfen). 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. 66891.
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: 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.
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.