

1 Identification

Product Name: DIFLUFENICAN PLUS MCPA SELECTIVE HERBICIDE by TITAN

Other Means of Identification: Mixture

Recommended Use of the Chemical and Restriction on Use: Agricultural herbicide

Details of Manufacturer or Importer:

Titan Ag Pty Ltd
15/16 Princes Street
Newport NSW 2106

Phone Number: 02 9999 6655

Emergency telephone number: 02 9999 6655

2 Hazard(s) Identification

Hazardous Nature:

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)



health hazard

Toxic To Reproduction 1A H360 May damage fertility or the unborn child.



environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Acute Toxicity (Oral) 4 H302 Harmful if swallowed.

Skin Corrosion/Irritation 2 H315 Causes skin irritation.

Serious Eye Damage/Irritation 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Flammable Liquids 4 H227 Combustible liquid.

Signal Word Danger

Hazard Statements

- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H360 May damage fertility or the unborn child.
- H335 May cause respiratory irritation.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

- P201 Obtain special instructions before use.

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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 dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
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.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use to extinguish: CO ₂ , powder or water spray.
P391	Collect spillage.
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.
P501	Dispose of contents/container in accordance with local/regional/national regulations.

3 Composition and Information on Ingredients

Chemical Characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Hazardous Components:

29450-45-1	MCPA, 2- ethylhexyl ester ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Toxicity (Oral) 4, H302; Acute Toxicity (Dermal) 4, H312; Serious Eye Damage/Irritation 2A, H319	39%
90438-79-2	Acetic acid, C6-8-branched alkyl esters	32.5%
872-50-4	N-methyl-2-pyrrolidone ⚠ Toxic To Reproduction 1B, H360D; ⚠ Skin Corrosion/Irritation 2, H315; Serious Eye Damage/Irritation 2A, H319; STOT SE 3, H335; Flammable Liquids 4, H227	15%
83164-33-4	Diflufenican Aquatic Chronic 3, H412	2.5%

4 First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.

Eye Contact:

In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

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Ingestion:

If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

Information for Doctor:

Establish a patent airway with suction where necessary.

Watch for signs of respiratory insufficiency and assist ventilation as necessary.

Administer oxygen by non-rebreather mask at 10 to 15 L/min.

Monitor and treat, where necessary, for pulmonary oedema .

Acute toxic reactions to chlorophenoxy compounds are rare. The by-product of production, dioxin, may be implicated in subacute features such as hepatic enlargement, chloracne, neuromuscular symptoms and deranged porphyrin metabolism.

Monitor metabolic acidosis, hyperthermia, hyperkalaemia, myoglobinuria and hepatic/renal dysfunction. for 2,4-dichlorophenoxyacetic acid (2,4-D) and its derivatives

Gastric lavage if there are no signs of impending convulsions.

Symptoms Caused by Exposure:

Inhalation: May cause respiratory irritation, coughing, pain, choking and breathing difficulties.

Ingestion: Harmful if swallowed. May cause gastrointestinal discomfort, nausea, vomiting and diarrhoea.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water fog, alcohol foam, dry chemical powder and carbon dioxide.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include oxides of carbon and nitrogen, hydrogen chloride, phosgene, and other pyrolysis products.

Combustible liquid Class 1..

Closed containers may explode when exposed to extreme heat. Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.

Special Protective Equipment and Precautions for Fire Fighters:

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear Safe Work Australia approved respiratory protection and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material.

Collect the spilled material and place into a suitable container for disposal.

7 Handling and Storage

Precautions for Safe Handling:

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours.

Food, beverages and tobacco products should not be stored or consumed where this material is in use.

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

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Conditions for Safe Storage:

Store in a cool, dry and well ventilated area. Keep container tightly closed when not in use. Protect from heat, sparks, open flames and other sources of ignition. Keep away from strong oxidising agents and acids.

8 Exposure Controls and Personal Protection

Exposure Standards:**872-50-4 N-methyl-2-pyrrolidone**

NES	STEL: 309 mg/m ³ , 75 ppm TWA: 103 mg/m ³ , 25 ppm Sk
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Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

Respiratory Protection:

Use a Safe Work Australia approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

Elbow-length PVC gloves, cotton overall buttoned to the neck and wrist, safety boots and a washable hat. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

Eye and Face Protection:

Eye and face protectors for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:

Form:	Liquid
Colour:	Dark brown
Odour:	Strong ester odour
Odour Threshold:	No information available
pH-Value:	Not determined.
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	176-200 °C (hydrocarbon solvent)
Flash Point:	>66 °C
Flammability:	Combustible Liquid Class 1
Auto-ignition Temperature:	321 °C (hydrocarbon solvent)
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	0.8 Vol % (hydrocarbon solvent)
Upper:	6.7 Vol % (hydrocarbon solvent)
Vapour Pressure:	No information available
Relative Density at 20 °C:	0.995
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Emulsifies with water.

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10 Stability and Reactivity

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials:

Esters react with acids to liberate heat along with alcohols and acids.

Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.

Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.

Hazardous Decomposition Products: Oxides of carbon and nitrogen, hydrogen chloride and phosgene.

11 Toxicological Information

Toxicity:

LD₅₀/LC₅₀ Values Relevant for Classification:

103-09-3 2-ethylhexyl acetate

Oral	LD ₅₀	3000 mg/kg (rat)
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872-50-4 N-methyl-2-pyrrolidone

Oral	LD ₅₀	3914 mg/kg (rat)
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Dermal	LD ₅₀	8000 mg/kg (rabbit)
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Acute Health Effects

Inhalation: May cause respiratory irritation, coughing, pain, choking and breathing difficulties.

Skin: Causes skin irritation.

Eye: Causes serious eye irritation.

Ingestion: Harmful if swallowed. May cause gastrointestinal discomfort, nausea, vomiting and diarrhoea.

Skin Corrosion / Irritation: Causes skin irritation.

Serious Eye Damage / Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitisation: No sensitising effects known.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity:

May damage fertility or the unborn child.

N-Methyl-2-pyrrolidone is classified by Safe Work Australia as Toxic to Reproduction Category 2.

Specific Target Organ Toxicity (STOT) - Single Exposure: May cause respiratory irritation.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Based on classification principles, the classification criteria are not met.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects:

Prolonged or repeated skin contact may cause skin sensitisation.

Chronic overexposure may cause liver and kidney damage and weight loss.

Existing Conditions Aggravated by Exposure: No information available

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Additional toxicological information:

The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.1 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 1.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

The Australian Acceptable Daily Intake (ADI) for diflufenican for a human is 0.2 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 16.3 mg/kg/day.

(Ref: Australian Pesticides and Veterinary Medicines Authority, 'Acceptable Daily Intakes for Agricultural and Veterinary Chemicals', 2017).

12 Ecological Information

Ecotoxicity: Diflufenican is slightly toxic to birds and non toxic to bees.

Aquatic toxicity:

Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and Degradability:

MCPA has low persistence. Half-life is 14 days to 1 month.

Half-life for diflufenican is 105-210 days.

Bioaccumulative Potential: No information available

Mobility in Soil: Diflufenican has low mobility.

13 Disposal Considerations

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:

Please consult your state Land Waste Management Authority for more information.

14 Transport Information

UN Number Not regulated

Proper Shipping Name Not regulated

Dangerous Goods Class Not regulated

Packing Group: Not regulated

15 Regulatory Information

Australian Inventory of Chemical Substances:

29450-45-1	MCPA, 2- ethylhexyl ester
90438-79-2	Acetic acid, C6-8-branched alkyl esters
872-50-4	N-methyl-2-pyrrolidone
83164-33-4	Diflufenican

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:

Poisons Schedule: 5

16 Other Information

Date of Preparation or Last Revision: 12.12.2017

Abbreviations and acronyms:

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC₅₀: Lethal concentration, 50 percent

LD₅₀: Lethal dose, 50 percent

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IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

Flammable Liquids 4: Flammable liquids – Category 4

Acute Toxicity (Oral) 4: Acute toxicity – Category 4

Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2

Serious Eye Damage/Irritation 2A: Serious eye damage/eye irritation – Category 2A

Toxic To Reproduction 1A: Reproductive toxicity – Category 1A

Toxic To Reproduction 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment, short-term (Acute). Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment, long-term (Chronic). Category 3

Disclaimer

This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - February 2016”

The information contained in this material safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. Titan Ag Pty Ltd makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.