

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

1 Identification

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

Other Means of Identification: Mixture

APVMA Approval Number: 90054

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

Details of Manufacturer or Importer:

Titan Ag Pty Ltd
Princes Street Marina
Suite 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.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition), IATA and IMDG/IMSBC.

Not subject to the ADG Code when transported in Australia by Road or Rail in packagings that do not incorporate a receptacle exceeding 500(L) or less; or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply.



Skull and crossbones

Acute Toxicity (Inhalation) 3 H331 Toxic if inhaled.



Health hazard

Toxic To Reproduction 1B 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.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sensitisation 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

Flammable Liquids 4 H227 Combustible liquid.

Signal Word Danger

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 1)

Hazard Statements
















H227 Combustible liquid.
 H302 Harmful if swallowed.
 H331 Toxic if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.
 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.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 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.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P330 Rinse mouth.
 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).
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
 P391 Collect spillage.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 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:**

CAS: 29450-45-1	MCPA (as iso octyl ester)  Aquatic Acute 1, H400;  Aquatic Chronic 1, H410;  Acute Toxicity (Oral) 4, H302;  Acute Toxicity (Dermal) 4, H312;  Acute Toxicity (Inhalation) 4, H332	<25%
CAS: 872-50-4	N-methyl-2-pyrrolidone  Toxic To Reproduction 1B, H360;  Skin Corrosion/Irritation 2, H315;  Eye Irrit. 2A, H319;  STOT SE 3, H335	<15%
CAS: 1689-99-2	Bromoxynil (as the octanoate)  Acute Toxicity (Inhalation) 3, H331;  Toxic To Reproduction 2, H361;  Aquatic Acute 1, H400;  Aquatic Chronic 1, H410;  Acute Toxicity (Oral) 4, H302;  Skin Sensitisation 1, H317	<15%

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 2)

CAS: 83164-33-4	Diflufenican	<2.5%
	Aquatic Chronic 3, H412	

4 First Aid Measures

General Information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Inhalation:

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

Skin Contact:

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

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 if symptoms persist.

Ingestion:

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:

Inhalation: Toxic if inhaled. May cause respiratory irritation and transient discomfort.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction, which may manifest as skin rash, inflammation, itchiness and reddening.

Eye Contact: Causes serious eye irritation, stinging, reddening and lachrymation.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation, burning of the mucosal membranes and reddening.

Medical Attention and Special Treatment:

Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

5 Fire Fighting Measures

Suitable Extinguishing Media: Use carbon dioxide, dry chemical, alcohol-resistant foam and water fog.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include carbon dioxide, carbon monoxide, smoke, nitrogen and its compounds, oxides of nitrogen, hydrogen cyanide gas, hydrogen fluoride, bromine and silicon compounds. Combustible liquid.

Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.

Prevent firefighting run off from entering drains or water courses.

Hazchem Code: •3Z

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 approved respiratory protection, chemical resistant gloves, protective clothing and safety boots.

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.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 3)

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 non-combustible absorbent material. In the event of a large spillage, create a dike to prevent entry into drains. Sweep up and shovel or collect recoverable product and place into a suitable container for disposal. Use only non-sparking tools.

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. Use only outdoors or in a well-ventilated area.

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. Emergency eyewash facilities and safety showers are recommended in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Keep container tightly closed when not in use to avoid contamination and possible evaporation. Check containers periodically for leaks. Keep away from strong acids, strong bases, oxidising agents. Keep away from sources of sparks or ignition. Handle and open containers carefully. Any electrical equipment in the area of this product should be flame proofed. Protect this product from direct sunlight.

8 Exposure Controls and Personal Protection

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

WES	STEL: 309 mg/m ³ , 75 ppm TWA: 103 mg/m ³ , 25 ppm Sk
-----	---

Engineering Controls:

Ensure adequate ventilation of the working area. Use of a fan is suggested if natural ventilation is inadequate.

Respiratory Protection:

Respiratory protection is not required under normal use conditions.

Use an 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:

Rubber, PVC or viton chemically impervious gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.

Occupational protective clothing and, preferably an impervious apron (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 4)

Eye and Face Protection:

Protective glasses or goggles 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:	Amber coloured
Odour:	Distinctive strong ester odour
Odour Threshold:	No information available
pH-Value:	No information available
Melting point/freezing point:	Liquid at ambient temperatures
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	> 65 °C
Flammability:	Combustible liquid
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure:	No information available
Density:	No information available
Relative Density:	No information available
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Emulsifies into water
Partition Coefficient (n-octanol/water):	No information available
Viscosity:	No information available

10 Stability and Reactivity

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Sources of heat, sparks or ignition and direct sunlight.

Incompatible Materials: Strong acids, strong bases and oxidising agents.

Hazardous Decomposition Products:

Hazardous combustion products include carbon dioxide, carbon monoxide, smoke, nitrogen and its compounds, oxides of nitrogen, hydrogen cyanide gas, hydrogen fluoride, bromine and silicon compounds.

11 Toxicological Information

Toxicity:**LD50/LC50 Values:****CAS: 29450-45-1 MCPA (as iso octyl ester)**

Oral	LD50	550-800 mg/kg (mouse) 700-1,160 mg/kg (rat)
	LD50	>1,000 mg/kg (rat) >4,000 mg/kg (rabbit)

CAS: 872-50-4 N-methyl-2-pyrrolidone

Oral	LD50	3,914 mg/kg (rat)
------	------	-------------------

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 5)

	LD50	8,000 mg/kg (rabbit)	
CAS: 1689-99-2 Bromoxynil (as the octanoate)			
Oral	LD50	63 mg/kg (guinea pig) 190 mg/kg (rat) 260 mg/kg (rabbit)	
	LD50	>2,000 mg/kg (rabbit)	
CAS: 83164-33-4 Diflufenican			
Oral	LD50	>1,000 mg/kg (mice) >2,000 mg/kg (rat) >5,000 mg/kg (rabbit)	
		LD50	>2,000 mg/kg (rat)
		Inhalation	LC50/4 h >2.34 mg/l (rat)

Acute Health Effects**Inhalation:** Toxic if inhaled. May cause respiratory irritation and transient discomfort.**Skin:**

Causes skin irritation. May cause an allergic skin reaction, which may manifest as skin rash, inflammation, itchiness and reddening.

Eye: Causes serious eye irritation, stinging, reddening and lachrymation.**Ingestion:**

Harmful if swallowed. May cause gastrointestinal irritation, burning of the mucosal membranes and reddening.

Skin Corrosion / Irritation: Causes skin irritation.**Serious Eye Damage / Irritation:** Causes serious eye irritation.**Respiratory or Skin Sensitisation:** May cause an allergic skin reaction.**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:** Suspected of damaging fertility or the unborn child.**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:** No data associated with long term health effects.**Existing Conditions Aggravated by Exposure:** Pre-existing sensitisation to bromoxynil.**Additional toxicological information:**

The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.01 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 ADI for Bromoxynil for a human is 0.003 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 0.3 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 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 23.3 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

(Ref: Australian Pesticides and Veterinary Medicines Authority, 'Acceptable Daily Intakes for Agricultural and Veterinary Chemicals', 2021).

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 6)

12 Ecological Information

Ecotoxicity:**Aquatic toxicity:**

Very toxic to aquatic life with long lasting effects.

CAS: 29450-45-1 MCPA (as iso octyl ester)

EC50/48 h 0.29 mg/l (daphnia)

EC50/72 h 0.11 mg/l (skeletonema costatum)

LC50/96 h 117-232 mg/l (rainbow trout)

CAS: 872-50-4 N-methyl-2-pyrrolidone

EC50/24 h >1,000 mg/l (daphnia)

EC50/72 h >500 mg/l (green algae)

LC50/96 h 1,072 mg/l (fathead minnow)

>5,000 mg/l (rainbow trout)

CAS: 1689-99-2 Bromoxynil (as the octanoate)

LC50 0.46 mg/l (goldfish)

0.05 mg/l (rainbow trout)

CAS: 83164-33-4 Diflufenican

LC50/96 h 105 mg/l (carp)

56-100 mg/l (rainbow trout)

LC50/48 h >10 mg/l (daphnia)

Persistence and Degradability: This product is biodegradable.**Bioaccumulative Potential:** No data available on finished product.**Mobility in Soil:** MCPA and its formulations show little affinity for soil.**Other adverse effects:** No further relevant information available.

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**ADG, IMDG, IATA**

UN3082

Proper Shipping Name**ADG, IMDG**ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (MCPA (as iso octyl ester), Bromoxynil
(as the octanoate))**IATA**ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (MCPA (as iso octyl ester), Bromoxynil
(as the octanoate)), MARINE POLLUTANT**Dangerous Goods Class****ADG Class:**

9

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 7)

Subsidiary Risk:**Packing Group:**

ADG, IMDG, IATA

III

Marine pollutant:

Yes

EMS Number:

F-A,S-F

Hazchem Code:

•3Z

Special Provisions:

274, 331, 335, 375, AU01

Transport/Additional information:

Not subject to the ADG Code when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs. (refer to SP AU01)

Limited Quantities:

5 L

Packagings & IBCs - Packing Instruction:

P001, IBC03, LP01

Packagings & IBCs - Special Packing Provisions: PP1**Portable Tanks & Bulk Containers - Instructions:** T4**Portable Tanks & Bulk Containers - Special Provisions:**

TP1, TP29

15 Regulatory Information

Australian Inventory of Industrial Chemicals:

All components are on the inventory, or in compliance with the inventory.

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

Poisons Schedule: 6

Australian Pesticides and Veterinary Medicines Authority:

This product is registered with the Australian Pesticides and Veterinary Medicines Authority. APVMA number 90054.

16 Other Information

Date of Preparation or Last Revision: 03.12.2021**Prepared by:** MSDS.COM.AU Pty Ltd

www.msds.com.au

Abbreviations and acronyms:

ADG: Australian Dangerous Goods

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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

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

Acute Toxicity (Inhalation) 3: Acute toxicity – Category 3

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

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sensitisation 1: Skin sensitisation, Hazard Category 1

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

Toxic To Reproduction 2: Reproductive toxicity – Category 2

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

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: Titan Diflufenican Bromoxynil MCPA Herbicide

(Contd. of page 8)

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 - July 2020"

The information contained in this 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. MSDS.COM.AU Pty Ltd is not in a position to warrant the accuracy of the data herein. 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.