

1 Identification

Product Name: TITAN DIFLUFENICAN 25 + BROMOXYNIL 250 SELECTIVE HERBICIDE

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 Princess 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)



skull and crossbones

Acute Toxicity (Inhalation) 3 H331 Toxic if inhaled.



health hazard

Toxic To Reproduction 1B H360Df May damage the unborn child. Suspected of damaging fertility.

Aspiration Hazard 1 H304 May be fatal if swallowed and enters airways.



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.

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

Hazard Statements

H227 Combustible liquid.

H302 Harmful if swallowed.

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- H331 Toxic if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H317 May cause an allergic skin reaction.
 H360Df May damage the unborn child. Suspected of damaging fertility.
 H335 May cause respiratory irritation.
 H304 May be fatal if swallowed and enters airways.
 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 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.
 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.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 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.
 P331 Do NOT induce vomiting.
 P333+P313 If skin irritation or rash 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: CO2, 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:**

64742-94-5	Solvent naphtha (petroleum), heavy arom. ☠ Aspiration Hazard 1, H304	30-40%
1689-99-2	Bromoxynil octanoate (ISO) ☠ 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	34%

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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	10-20%
83164-33-4	Diflufenican Aquatic Chronic 3, H412	2.3%

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.

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.

Symptoms Caused by Exposure:

Sensitisation, irritation, nausea, vomiting, sweating, thirst, anxiety, hyperventilation, tachycardia, muscle twitching and convulsions.

5 Fire Fighting Measures

Suitable Extinguishing Media:

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use high volume water jet.

Specific Hazards Arising from the Chemical:

Combustible liquid.

Hazardous combustion products include hydrogen bromide, hydrogen cyanide, hydrogen fluoride and oxides of nitrogen and carbon.

Vapours may form explosive mixture with air.

Closed containers may explode when exposed to extreme heat. 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 self-contained breathing apparatus 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. Ensure adequate ventilation.

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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. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

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

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:

If use conditions generate vapours or mists use respirator equipped for organic vapours. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

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

Eye and Face Protection:

Safety glasses with top and side shields or goggles. See Australian/New Zealand Standards AS/NZS 1336 and 1337 for more information.

9 Physical and Chemical Properties

Appearance:

Form:	Liquid
Colour:	Clear, light yellow to dark brown
Odour:	Aromatic
Odour Threshold:	Not determined.
pH-Value at 23 °C:	4.2 (10% solution)
Melting point/freezing point:	Not applicable
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	66 °C
Flammability:	Combustible liquid
Auto-ignition Temperature:	>200 °C (solvent)
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	0.6 Vol %
Upper:	7 Vol %

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Vapour Pressure:	No information available
Density:	Not determined.
Relative Density at 20 °C:	1.09 g/cm ³
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Emulsifiable
Partition Coefficient (n-octanol/water):	No information available
Organic solvents:	20.0 %

10 Stability and Reactivity

Possibility of Hazardous Reactions: No hazardous reactions will occur.

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

Conditions to Avoid: Heat, sparks, open flames and other sources of ignition.

Incompatible Materials: Strong oxidizing agents, strong acids and alkalis.

Hazardous Decomposition Products:
Hydrogen bromide, hydrogen cyanide, hydrogen fluoride and oxides of nitrogen and carbon.

11 Toxicological Information

Toxicity:

LD₅₀/LC₅₀ Values Relevant for Classification:

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

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

Acute Health Effects

Inhalation: Harmful if inhaled. Irritating to respiratory system.

Skin: Irritating to skin and mucous membranes. May cause sensitisation by skin contact.

Eye: Causes eye irritation.

Ingestion: Harmful if swallowed.

Skin Corrosion / Irritation: Causes skin irritation.

Serious Eye Damage / Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitisation: Sensitisation possible through skin contact.

Reproductive Toxicity: May damage 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: May be fatal if swallowed and enters airways.

Chronic Health Effects: No information available

Existing Conditions Aggravated by Exposure: No information available

Additional toxicological information:

The Australian Acceptable Daily Intake (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 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.

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

12 Ecological Information

Ecotoxicity:**Aquatic toxicity:****83164-33-4 Diflufenican**

EC50 / 48h > 0.24 mg/L (daphnia)

LC50 / 96 h > 0.109 mg/L (rainbow trout)

1689-99-2 Bromoxynil octanoate (ISO)

EC 50 / 48 h > 0.046 mg/L (daphnia)

LD50 170 mg/kg (bobwhite quail)

Persistence and Degradability: Not readily biodegradable (bromoxynil and diflufenican)**Bioaccumulative Potential:**

Bioconcentration factor (BCF): 230 (bromoxynil)

Bioconcentration factor (BCF): 1.60 (diflufenican)

Mobility in Soil:

DT50 - 1 d (bromoxynil)

DT50 - 85.6 - 282 d (diflufenican)

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:

64742-94-5 Solvent naphtha (petroleum), heavy arom.

1689-99-2 Bromoxynil octanoate (ISO)

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: 6

16 Other Information

Date of Preparation or Last Revision: 12.12.2017**Prepared by:** MSDS.COM.AU Pty Ltd

www.msds.com.au

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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 percentLD₅₀: 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

Serious Eye Damage/Irritation 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 1B: Reproductive toxicity – Category 1B

Toxic To Reproduction 2: Reproductive toxicity – Category 2

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

Aspiration Hazard 1: Aspiration hazard – Category 1

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"

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