

# Safety Data Sheet

according to WHS Regulations

Print date: 17.07.2023

Revision date: 17.07.2023

## 1 Identification

**Product Name:** Titan Triforto EC Herbicide

**Other Means of Identification:** Mixture

**APVMA Approval Number:** 93011

**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.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition). Classified as Dangerous Goods when transported by Air or Sea. See section 14 of this document for more details.



Health hazard

Toxic To Reproduction 1B H360D May damage the unborn child.



Environment

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



Acute Toxicity (Oral) 4 H302 Harmful if swallowed.

Acute Toxicity (Inhalation) 4 H332 Harmful if inhaled.

Skin Corrosion/Irritation 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

Skin Sensitisation 1 H317 May cause an allergic skin reaction.

Flammable Liquids 4 H227 Combustible liquid.

**Signal Word** Danger

### Hazard Statements

H227 Combustible liquid.

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H360D May damage the unborn child.

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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/sparks/open flames/hot surfaces. 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.
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 victim to fresh air and keep at rest in a position 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 CO <sub>2</sub> , powder or water spray to extinguish.
P391	Collect spillage.
P403	Store in well-ventilated place.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international 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 2-ethylhexyl ester	<25%
	⚠ Aquatic Chronic 1, H410; ⚠ Acute Toxicity (Oral) 4, H302; Acute Toxicity (Dermal) 4, H312; Acute Toxicity (Inhalation) 4, H332	
CAS: 1689-99-2	Bromoxynil octanoate	<25%
	⚠ Acute Toxicity (Inhalation) 3, H331; ⚠ Toxic To Reproduction 2, H361d; ⚠ Aquatic Chronic 1, H410 (M=10); ⚠ Acute Toxicity (Oral) 4, H302; Skin Sensitisation 1, H317	
CAS: 872-50-4	N-methyl-2-pyrrolidone	<20%
	⚠ Toxic To Reproduction 1B, H360D; ⚠ Skin Corrosion/Irritation 2, H315; Eye Irritation 2A, H319; STOT SE 3, H335	
CAS: 83164-33-4	Diflufenican	<2.5%
	Aquatic Chronic 3, H412 (M=1000)	

### 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.

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**Skin Contact:**

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

**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 irritation persists.

**Ingestion:**

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Give a glass of water to drink in small sips. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**Symptoms Caused by Exposure:**

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

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

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.

Product is combustible. It will burn in a large fire.

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.

**Environmental Precautions:**

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

Inform respective authorities in case of seepage into water course or sewage system.

**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. 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 or spray mists. 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.

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**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. 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.

### 8 Exposure Controls and Personal Protection

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

WES	STEL: 309 mg/m <sup>3</sup> , 75 ppm TWA: 103 mg/m <sup>3</sup> , 25 ppm Sk
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**Engineering Controls:**

Ensure adequate ventilation of the working area, keeping airborne concentrations below occupational exposure standards.

**Respiratory Protection:**

Respiratory protection is not required under normal use conditions.

Use an approved mixed type organic vapour / particulate respirator (types A and P) 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 chemical 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.

**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:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Amber
<b>Odour:</b>	Distinctive, strong ester-like odour
<b>Odour Threshold:</b>	No information available
<b>pH-Value:</b>	No information available
<b>Melting point/freezing point:</b>	Liquid at ambient temperatures
<b>Initial Boiling Point/Boiling Range:</b>	No information available
<b>Flash Point:</b>	>65 °C
<b>Flammability (solid, gas):</b>	Not applicable
<b>Decomposition Temperature:</b>	No information available
<b>Explosion Limits:</b>	
<b>Lower:</b>	No information available
<b>Upper:</b>	No information available
<b>Vapour Pressure:</b>	No information available
<b>Density:</b>	No information available
<b>Relative Density:</b>	No information available

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<b>Vapour Density:</b>	No information available
<b>Evaporation Rate:</b>	No information available
<b>Solubility in Water:</b>	Emulsifies into water
<b>Partition Coefficient (n-octanol/water):</b>	No information available
<b>Viscosity:</b>	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:** Heat, sparks, open flames, hot surfaces 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 2-ethylhexyl ester**

Oral	LD50	550-800 mg/kg (mouse)
		700-1,160 mg/kg (Rattus norvegicus (rat))

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

Oral	LD50	3,914 mg/kg (Rattus norvegicus (rat))
	LD50	8,000 mg/kg (Oryctolagus cuniculus (rabbit))

**CAS: 1689-99-2 Bromoxynil octanoate**

Oral	LD50	63 mg/kg (Cavia porcellus (guinea pig))
		190 mg/kg (Rattus norvegicus (rat))
		260 mg/kg (Oryctolagus cuniculus (rabbit))

**CAS: 83164-33-4 Diflufenican**

Oral	LD50	>2,000 mg/kg (Rattus norvegicus (rat))
		>5,000 mg/kg (Oryctolagus cuniculus (rabbit))
Inhalation	LC50/4 h	>2.34 mg/l (Rattus norvegicus (rat))

**Acute Health Effects****Inhalation:** Harmful if inhaled. May cause respiratory irritation and transient discomfort.**Skin:** Causes skin irritation. May cause an allergic skin reaction.**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:**

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

This product does NOT contain any IARC listed chemicals.

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**Reproductive Toxicity:** May damage the unborn child.**Specific Target Organ Toxicity (STOT) - Single Exposure:**

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

**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 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 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 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 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', 2023).

## 12 Ecological Information

**Ecotoxicity:****Aquatic toxicity:**

Very toxic to aquatic life with long lasting effects.

**CAS: 29450-45-1 MCPA 2-ethylhexyl ester**

EC50/48 h	0.29 mg/l (Daphnia magna (water flea))
EC50/72 h	0.11 mg/l (Skeletonema costatum (diatom))
LC50/96 h	117-232 mg/l (Oncorhynchus mykiss (rainbow trout))

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

EC50/24 h	>1,000 mg/l (Daphnia magna (water flea))
EC50/72 h	>500 mg/l (Chlorophyta (green algae))
LC50/96 h	1,072 mg/l (Pimephales promelas (fathead minnow))
	>5,000 mg/l (Oncorhynchus mykiss (rainbow trout))

**CAS: 1689-99-2 Bromoxynil octanoate**

LC50	0.46 mg/l (Carassius auratus (goldfish))
	0.05 mg/l (Oncorhynchus mykiss (rainbow trout))

**CAS: 83164-33-4 Diflufenican**

LC50/96 h	105 mg/l (carp)
	56-100 mg/l (Oncorhynchus mykiss (rainbow trout))
LC50/48 h	>10 mg/l (Daphnia magna (water flea))

**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.

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## 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

<b>UN Number</b> <b>ADG, IMDG, IATA</b>	UN3082
<b>Proper Shipping Name</b> <b>ADG, IMDG, IATA</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA (as iso octyl ester), Bromoxynil (as the octanoate))
<b>Dangerous Goods Class</b> <b>ADG Class:</b>	9
<b>Packing Group:</b> <b>ADG, IMDG, IATA</b>	III
<b>Marine pollutant:</b>	Yes
<b>EMS Number:</b>	F-A,S-F
<b>Hazchem Code:</b>	•3Z
<b>Transport/Additional information:</b>	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)
<b>Excepted quantities (EQ):</b>	E1
<b>Limited Quantities:</b>	5 L

## 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 approval number 93011.

## 16 Other Information

**Date of Preparation or Last Revision:** 17.07.2023

**Prepared by:** MSDS.COM.AU Pty Ltd

[www.msds.com.au](http://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

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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 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 2: Reproductive toxicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
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.