Safety Data Sheet
according to WHS Regulations

Print date: 31.10.2024 Revision date: 28.10.2024

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.
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 kg(L); or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply.


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.

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H360D May damage the unborn child.
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 CO2, 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 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, H360D; Skin Corrosion/Irritation 2, H315; Eye Irritation 2A, H319; STOT SE 3, H335	<15%
CAS: 1689-99-2	Bromoxynil octanoate 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	<15%
CAS: 83164-33-4	Diflufenican Aquatic Chronic 3, H412 (M=1000)	<2.5%

4 First Aid Measures

Inhalation: If inhaled, remove to fresh air. Seek medical attention if breathing problems develop.

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

Eye Contact:
In case of eye contact, rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention if irritation persists.

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

Symptoms Caused by Exposure:
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Skin Contact: Causes skin irritation. May cause an allergic skin reaction.
Eye Contact: Causes serious eye irritation.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation, nausea, diarrhoea and vomiting.

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 oxides of carbon, oxides of nitrogen, hydrogen cyanide, hydrogen fluoride, compounds of bromine, compounds of nitrogen, compounds of silicon, and smoke.
Combustible liquid.
Containers close to fire should be removed only if safe to do so. Use water spray to cool fire exposed containers.
Prevent run-off from fire fighting 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 or mists. 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 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 or mists. 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 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 oxidising agents, strong acids, and strong bases.

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8 Exposure Controls and Personal Protection

Exposure Standards:	
CAS: 872-50-4 N-methyl-2-pyrrolidone	
WES	STEL: 309 mg/m³, 75 ppm TWA: 103 mg/m³, 25 ppm Sk

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

Respiratory Protection:
Use an approved respirator (filter type SA) 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:
Protective 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 (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:
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:	Amber
Odour:	Distinctive strong ester
Odour Threshold:	No information available
pH-Value:	No information available
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	No information available
Flash Point:	>65 °C
Flammability (solid, gas):	Not applicable
Auto-ignition Temperature:	No information available
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure at 40 °C:	1.3 hPa
Relative Density:	Not determined.
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Forms an emulsion in water
Partition Coefficient (n-octanol/water):	No information available
Viscosity:	No information available

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10 Stability and Reactivity

Possibility of Hazardous Reactions: No dangerous reactions known under conditions of normal use.

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

Conditions to Avoid: Direct sunlight, heat, sparks, open flames and other sources of ignition.`

Incompatible Materials: Oxidising agents, strong acids, and strong bases.

Hazardous Decomposition Products:
Oxides of carbon, oxides of nitrogen, hydrogen cyanide, hydrogen fluoride, compounds of bromine, compounds of nitrogen, compounds of silicon, and smoke.

11 Toxicological Information

Toxicity:

LD50/LC50 Values:		
CAS: 29450-45-1 MCPA 2-ethylhexyl ester		
Oral	LD50	>1,300 mg/kg (Rattus norvegicus (rat))
CAS: 872-50-4 N-methyl-2-pyrrolidone		
Oral	LD50	4,150 mg/kg (Rattus norvegicus (rat))
Dermal	LD50	>5,000 mg/kg (Rattus norvegicus (rat))
Inhalation	LC50/4 h	>5.1 mg/l (Rattus norvegicus (rat))
CAS: 1689-99-2 Bromoxynil octanoate		
Oral	LD50	>141 mg/kg (Rattus norvegicus (rat))
		260 mg/kg (Oryctolagus cuniculus (rabbit))
Dermal	LD50	>2,000 mg/kg (Rattus norvegicus (rat))
Inhalation	LC50/4 h	0.72-0.81 mg/l (Rattus norvegicus (rat))
CAS: 83164-33-4 Diflufenican		
Oral	LD50	>5,000 mg/kg (Rattus norvegicus (rat))
Dermal	LD50	>2,000 mg/kg (Rattus norvegicus (rat))
Inhalation	LC50/4 h	>5.12 mg/l (Rattus norvegicus (rat))

Acute Health Effects
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Skin: Causes skin irritation. May cause an allergic skin reaction.
Eye: Causes serious eye irritation.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation, nausea, diarrhoea and vomiting.

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.

Reproductive Toxicity: May damage the unborn child.

Specific Target Organ Toxicity (STOT) - Single Exposure:
Based on classification principles, the classification criteria are not met.

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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: No data available.

Additional toxicological information:
The Australian Acceptable Daily Intake (ADI) for bromoxynil octanoate 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. This is based on the NOAEL of 23.3 mg/kg/day.
The ADI for MCPA 2-ethylhexyl ester for a human is 0.01 mg/kg/day. This is based on the NOAEL of 1.1 mg/kg/day.
(Ref: Australian Pesticides and Veterinary Medicines Authority, 'Acceptable Daily Intakes for Agricultural and Veterinary Chemicals', 2024).

12 Ecological Information

Ecotoxicity:

CAS: 1689-99-2 Bromoxynil octanoate		
Oral	LD50	2,350 mg/kg (Anas platyrhynchos (mallard duck))
		170 mg/kg (Coturnix coturnix (common quail))

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	
EC50/48 h	4,897 mg/l (Daphnia magna (water flea))
EC50/72 h	672 mg/l (Desmodesmus subspicatus (green algae))
LC50/96 h	>500 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: No data available on finished product.

Bioaccumulative Potential: No data available on finished product.

Mobility in Soil: No data available on finished product.

Other adverse effects: No further relevant information available.

13 Disposal Considerations

Disposal Methods and Containers:
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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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, IATA**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Dangerous Goods Class **ADG Class:**	9
Packing Group: **ADG, IMDG, IATA**	III
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)
Excepted quantities (EQ):	E1
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: 7
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: 28.10.2024

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

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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
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.