Safety Data Sheet
according to WHS Regulations

Printing date 13.12.2022 Revision: 26.10.2021

1 Identification

Product Name: TITAN PARAQUAT 250 HERBICIDE

Other Means of Identification: Mixture

APVMA Approval Number: 61869

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).


Skull and crossbones

Acute Toxicity (Inhalation) 1 H330 Fatal if inhaled.


Health hazard

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.


Corrosion

Skin Corrosion/Irritation 1C H314 Causes severe skin burns and eye damage.
Serious Eye Damage/Irritation 1 H318 Causes serious eye damage.


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.
STOT SE 3 H335 May cause respiratory irritation.

Signal Word Danger

Hazard Statements
H302 Harmful if swallowed.

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H330 Fatal if inhaled.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P260	Do not breathe dusts or mists.
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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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.
P310	Immediately call a POISON CENTER/doctor.
P320	Specific treatment is urgent (see on this label).
P314	Get medical advice/attention if you feel unwell.
P363	Wash contaminated clothing before reuse.
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: 1910-42-5	Paraquat (present as paraquat dichloride) Acute Toxicity (Oral) 3, H301; Acute Toxicity (Dermal) 3, H311; Acute Toxicity (Inhalation) 1, H330; STOT RE 1, H372; Aquatic Chronic 1, H410; Skin Corrosion/Irritation 2, H315; Eye Irritation 2A, H319; STOT SE 3, H335	20-25%
CAS: 110-86-1	Pyridine Flammable Liquids 2, H225; STOT RE 2, H373; Skin Corrosion/Irritation 1C, H314; Acute Toxicity (Oral) 4, H302; Acute Toxicity (Dermal) 4, H312; Acute Toxicity (Inhalation) 4, H332	<10%

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.

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.

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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: Fatal if inhaled. May cause respiratory irritation, headaches, nausea, nose bleeding and a sore throat. May cause pulmonary oedema, which can be fatal.
Skin Contact: Causes severe skin burns. May cause white spots on fingernails, cracked nails and possible loss of fingernails.
Eye Contact: Causes serious eye irritation, stinging, reddening and watering.
Ingestion: Harmful if swallowed. May cause vomiting, diarrhoea, soreness and inflamation of mouth and throat, kidney failure and liver damage.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water fog or fine spray.

Specific Hazards Arising from the Chemical:
Hazardous combustion products include oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, hydrogen chloride, other chlorine compounds and smoke.
Product is not flammable.
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: 2X

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.

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. If absorbent material is not available or spill is too large, create a dike to stop spill from spreading. 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. 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 in a cool, dry and well ventilated area. Keep in original container, tightly closed when not in use. Protect from direct sunlight. Keep away from strong oxidising agents.

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8 Exposure Controls and Personal Protection

Exposure Standards:	
CAS: 110-86-1 Pyridine	
NES	TWA: 16 mg/m³, 5 ppm

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

Respiratory Protection:
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:
PVC or rubber 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:
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 blue
Odour:	Characteristic pyridine base odour
Odour Threshold:	No information available
pH-Value:	5.0 - 6.5 (1% solution)
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	~100 °C
Flash Point:	Not applicable
Flammability:	Product is not flammable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure:	Not determined.
Relative Density:	1.1
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Completely soluble
Partition Coefficient (n-octanol/water):	No information available

10 Stability and Reactivity

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

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

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Conditions to Avoid: Direct sunlight.

Incompatible Materials: Strong oxidising agents.

Hazardous Decomposition Products:
Oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, hydrogen chloride, other chlorine compounds, smoke and water.

11 Toxicological Information

Toxicity:

LD50/LC50 Values:		
CAS: 1910-42-5 Paraquat (present as paraquat dichloride)		
Oral	LD50	283-344 mg/kg (rat)
	LD50	>2,000 mg/kg (rat)
CAS: 110-86-1 Pyridine		
Oral	LD50	891 mg/kg (rat)
	LD50	1,121 mg/kg (rabbit)

Acute Health Effects
Inhalation:
Fatal if inhaled. May cause respiratory irritation, headaches, nausea, nose bleeding and a sore throat. May cause pulmonary oedema, which can be fatal.
Skin:
Causes severe skin burns. May cause white spots on fingernails, cracked nails and possible loss of fingernails.
Eye: Causes serious eye irritation, stinging, reddening and watering.
Ingestion:
Harmful if swallowed. May cause vomiting, diarrhoea, soreness and inflamation of mouth and throat, kidney failure and liver damage.

Skin Corrosion / Irritation: Causes severe skin burns.

Serious Eye Damage / Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

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

Carcinogenicity:
Not expected to be a hazard.
Pyridine is classified by IARC as Group 3 - Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

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

Specific Target Organ Toxicity (STOT) - Repeated Exposure:
Causes damage to organs through prolonged or repeated exposure if swallowed.

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

Chronic Health Effects:
Prolonged exposure or delayed treatment may cause permanent eye damage. May cause damage to the kidneys and liver.

Existing Conditions Aggravated by Exposure: No information available

Additional toxicological information:
The Australian Acceptable Daily Intake (ADI) for paraquat (as cation) for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 0.45 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', 2022).

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12 Ecological Information

Ecotoxicity:	
CAS: 1910-42-5 Paraquat (present as paraquat dichloride)	
LD50	981 mg/kg (bobwhite quail) 970 mg/kg (quail)

Aquatic toxicity:
Very toxic to aquatic life with long lasting effects.

CAS: 1910-42-5 Paraquat (present as paraquat dichloride)	
EC50/48 h	6.1 mg/l (daphnia magna)
EC50/72 h	0.00103 mg/l (diatom) 0.6 mg/l (pseudokirchneriella subcapitata)
LC50/96 h	55 mg/l (rainbow trout)

Persistence and Degradability: No information available

Bioaccumulative Potential: Bioaccumulation is not expected to occur.

Mobility in Soil: Paraquat strongly adsorbs to soil particles, and so has low mobility in soils.

Other adverse effects: No 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 UN3016

Proper Shipping Name
ADG BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Paraquat (present as paraquat dichloride)), ENVIRONMENTALLY HAZARDOUS
IMDG BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Paraquat (present as paraquat dichloride)), MARINE POLLUTANT
IATA BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Paraquat (present as paraquat dichloride))

Dangerous Goods Class
ADG Class: 6.1

Packing Group:
ADG, IMDG, IATA III

Marine pollutant: Yes
Symbol (fish and tree)

EMS Number: F-A,S-A

Hazchem Code: 2X

Special Provisions: 61, 223, 274

Limited Quantities: 5L

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Packagings & IBCs - Packing Instruction: P001, IBC03, LP01

Packagings & IBCs - Special Packing Provisions: None

Portable Tanks & Bulk Containers - Instructions: T7

Portable Tanks & Bulk Containers - Special Provisions: TP2, TP28

15 Regulatory Information

Australian Inventory of Industrial Chemicals:

All ingredients are listed.

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 61869.

16 Other Information

Date of Preparation or Last Revision: 26.10.2021

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 2: Flammable liquids – Category 2
Acute Toxicity (Oral) 3: Acute toxicity – Category 3
Acute Toxicity (Oral) 4: Acute toxicity – Category 4
Acute Toxicity (Inhalation) 1: Acute toxicity – Category 1
Skin Corrosion/Irritation 1C: Skin corrosion/irritation – Category 1C
Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2
Serious Eye Damage/Irritation 1: Serious eye damage/eye irritation – Category 1
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
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

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”.
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