

Safety Data Sheet

according to WHS Regulations

Printing date 18.01.2023

Revision: 18.01.2023

1 Identification

Product Name: TITAN DIQUAT 200 NON-RESIDUAL HERBICIDE**Other Means of Identification:** Mixture**APVMA Approval Number:** 64177**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) 3 H331 Toxic if inhaled.



Health hazard

STOT RE 1

H372 Causes damage to organs through prolonged or repeated exposure.



Environment

Aquatic Chronic 2

H411 Toxic to aquatic life with long lasting effects.



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.

Signal Word Danger**Hazard Statements**

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H372 Causes damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

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Precautionary Statements

P260	Do not breathe 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 / eye protection / face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311	Call a POISON CENTER/doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P314	Get medical advice/attention if you feel unwell.
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.
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: 85-00-7	Diquat dibromide	15-20%
	⚠ Acute Toxicity (Inhalation) 2, H330; ⚠ STOT RE 1, H372; ⚠ Aquatic Chronic 1, H410; ⚠ Acute Toxicity (Oral) 4, H302; Skin Corrosion/Irritation 2, H315; Eye Irritation 2A, H319; Skin Sensitisation 1, H317; STOT SE 3, H335	

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 irritation occurs.

Eye Contact:

In case of eye contact, rinse with water for several minutes, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek immediate medical attention.

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: Toxic if inhaled. May cause respiratory irritation, headaches, nose bleeding, shortness of breath, increased secretion of mucous and sore throat. May cause pulmonary oedema, which can be fatal.

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

Eye Contact: Causes serious eye irritation. Prolonged exposure or delayed treatment may cause permanent eye damage.

Ingestion: May be corrosive to the gastrointestinal tract, causing nausea, vomiting, diarrhoea, ulceration of the lips, throat and intestines, severe dehydration, changes in body fluid balances, kidney failure and liver damage.

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5 Fire Fighting Measures

Suitable Extinguishing Media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use a solid water stream.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include oxides of carbon, nitrogen, oxides of nitrogen, various, unidentified nitrogen compounds, hydrogen cyanide, bromine compounds, smoke and water.

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.

Extinguish all sources of ignition. Avoid sparks and open flames. No smoking. Take care as spill may cause a slip hazard.

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. 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. Decontaminate spill area with water and detergents. Contain all runoff.

7 Handling and Storage

Precautions for Safe Handling:

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of mists or 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 heat, direct sunlight, sparks, open flames and other sources of ignition. Avoid contact with metals, e.g. aluminium, zinc, iron.

8 Exposure Controls and Personal Protection

Exposure Standards:

CAS: 85-00-7 Diquat dibromide

WES	TWA: 0.5 mg/m ³
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Engineering Controls:

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

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Respiratory Protection:

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:

Elbow-length gloves. Recommended materials: PVC, natural rubber. 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:	Dark red to brown
Odour:	No information available
Odour Threshold:	No information available
pH-Value:	4 - 5
Melting point/freezing point:	approx. 0 °C
Initial Boiling Point/Boiling Range:	approx. 100 °C
Flash Point:	No information available
Flammability:	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:	No information available
Relative Density:	approx. 1.2
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: 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: Heat, direct sunlight, sparks, open flames and other sources of ignition.

Incompatible Materials: Contact with metals, e.g. aluminium, zinc, iron.

Hazardous Decomposition Products:

Oxides of carbon, nitrogen, oxides of nitrogen, various, unidentified nitrogen compounds, hydrogen cyanide, bromine compounds, smoke and water.

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11 Toxicological Information

Toxicity:**LD50/LC50 Values:****CAS: 85-00-7 Diquat dibromide**

Oral	LD50	1,000 mg/kg (rat)
	LD50	400-500 mg/kg (rabbit)
Dermal	LD50	2,000 mg/kg (rat)
Inhalation	LC50/4 h	0.226 mg/l (rat) (OECD Test Guideline 403)

Acute Health Effects**Inhalation:**

Toxic if inhaled. May cause respiratory irritation, headaches, nose bleeding, shortness of breath, increased secretion of mucous and sore throat. May cause pulmonary oedema, which can be fatal.

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

Eye:

Causes serious eye irritation. Prolonged exposure or delayed treatment may cause permanent eye damage.

Ingestion:

May be corrosive to the gastrointestinal tract, causing nausea, vomiting, diarrhoea, ulceration of the lips, throat and intestines, severe dehydration, changes in body fluid balances, kidney failure and liver damage.

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

Specific Target Organ Toxicity (STOT) - Single Exposure:

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

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure.

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 loss of appetite, decreased growth, lung changes, skin inflammation, changes to fingernails and damage to the kidneys.

Existing Conditions Aggravated by Exposure: No information available

Additional toxicological information:

The Australian Acceptable Daily Intake (ADI) for diquat for a human is 0.002 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 0.2 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).

12 Ecological Information

Ecotoxicity:

Non-toxic to bees. Moderately toxic to birds.

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CAS: 85-00-7 Diquat dibromide	
LD50	200-400 mg/kg (hen) 564 mg/kg (mallard duck)

Aquatic toxicity:

Toxic to aquatic life with long lasting effects.

CAS: 85-00-7 Diquat dibromide	
IC50/96 h (static)	21 mg/l (rainbow trout)
EC50/48 h	5.9 mg/l (daphnia magna)

Persistence and Degradability: Highly persistent, diquat half life in soil: >1000 days. May accumulate in soil.**Bioaccumulative Potential:** Bioaccumulation is not expected to occur.**Mobility in Soil:** If it enters soil, it will adsorb to soil particles and will not be mobile.**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.
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	UN3016
ADG, IMDG, IATA	
Proper Shipping Name	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Diquat dibromide), ENVIRONMENTALLY HAZARDOUS
ADG	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Diquat dibromide), MARINE POLLUTANT
IMDG	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Diquat dibromide)
IATA	
Dangerous Goods Class	
ADG Class:	6.1
Packing Group:	
ADG, IMDG, IATA	II
Marine pollutant:	Yes
EMS Number:	F-A,S-A
Hazchem Code:	2X
Special Provisions:	61, 274
Excepted quantities (EQ):	E4
Limited Quantities:	100 ml
Packagings & IBCs - Packing Instruction:	P001, IBC02
Packagings & IBCs - Special Packing Provisions:	None

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Portable Tanks & Bulk Containers - Instructions: T11**Portable Tanks & Bulk Containers - Special Provisions:**

TP2, TP13, TP27

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 64177.

16 Other Information

Date of Preparation or Last Revision: 18.01.2023**Prepared by:** MSDS.COM.AU Pty Ltdwww.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)

Acute Toxicity (Oral) 4: Acute toxicity – Category 4

Acute Toxicity (Inhalation) 2: Acute toxicity – Category 2

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

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

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term (Chronic). Category 2

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.