



## MATERIAL SAFETY DATA SHEET

### TITAN DIQUAT 200 HERBICIDE

#### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	Titan Diquat 200 Herbicide
<b>Product Code</b>	-
<b>Other Names</b>	-
<b>Product Use</b>	Agricultural Herbicide
<b>Company Name</b>	Titan Ag Pty Ltd
<b>Address</b>	3/14 Narabang Way Belrose NSW 2085
<b>Telephone Number</b>	02 9986 2943
<b>Emergency Telephone</b>	02 9986 2943

#### 2. HAZARDS IDENTIFICATION

##### HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Classified as hazardous according to the criteria of Safe Work Australia.

<b>Hazards</b>	T+ - Very Toxic N - Dangerous for the Environment
<b>Risk Phrases</b>	R26 - Very toxic by inhalation. R37 - Irritating to respiratory system. R40 - Limited evidence of a carcinogenic effect. R41 - Risk of serious eye damage. R43 - May cause sensitisation by skin contact. R50/53 - Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
<b>Safety Phrases</b>	S1/2 - Keep locked up and out of reach of children. S28 - After contact with skin, wash immediately with plenty of... (to be specified by the manufacturer). S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60 - This material and its container must be disposed of as hazardous waste. S61 - Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<b>Ingredient (common name)</b>	<b>CAS Number</b>	<b>Proportion</b>
Diquat dibromide	85-00-7	200g/L
Ingredients deemed not to be hazardous	Proprietary	Balance

### 4. FIRST AID MEASURES

<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.
<b>Ingestion</b>	If swallowed, do not induce vomiting. Wash mouth with water and give some water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
<b>Skin</b>	If skin or hair contact occurs, immediately remove contaminated clothing and wash skin and hair thoroughly. Seek medical attention if symptoms persist.
<b>Eyes</b>	If in eyes, hold eyelids apart and flush the eye continuously with large amounts of water for at least 15 minutes. Seek immediate medical attention.

### 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	For major fires call the Fire Brigade. Ensure that an escape path is available from any fire. Small fires: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use a solid water stream as it may scatter and spread fire. Large fires: Use alcohol-resistant foam. Do not use a solid water stream as it may scatter and spread fire.
<b>Hazardous Combustion Products</b>	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion.
<b>Firefighting Equipment</b>	Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing.
<b>Unusual Fire or Explosion Hazards</b>	Cool closed containers exposed to fire with water spray.
<b>Hazchem Code</b>	2X

### 6. ACCIDENTAL RELEASE MEASURES

<b>Spills</b>	In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. Stop leak if safe to do so and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Collect into labelled containers for recycling or salvage and dispose of promptly. Decontaminate spill area with detergent and water and prevent runoff entering drains or water courses.
---------------	---

## 7. HANDLING AND STORAGE

<b>Handling</b>	Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Provide adequate ventilation.
<b>Storage</b>	Store in the closed, original container in a dry, well ventilated area, as cool as possible. Do not store for prolonged periods in direct sunlight. Keep container tightly sealed and do not store with seed, animal food or foodstuffs.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Exposure Standards (Safe Work Australia)</b>	<b>Diquat dibromide:</b> TWA: - ppm / 0.5 mg/m <sup>3</sup> STEL: - ppm / - mg/m <sup>3</sup>
<b>Engineering Controls</b>	This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
<b>Respiratory Protection</b>	Respiratory protection not necessary. Avoid working in and breathing spray mist. If in doubt use a Safe Work Australia approved full face supplied air respirator if high airborne concentrations of the material are present. See Australian Standards AS/NZS 1715 and 1716 for more information.
<b>Eye Protection</b>	Protective glasses or goggles and face shield.
<b>Skin Protection</b>	Impervious elbow-length gloves, cotton overalls and washable hat.
<b>Hygienic Practices</b>	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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Dark red brown viscous liquid
<b>Odour</b>	Non specific odour
<b>Solubility in Water</b>	Soluble
<b>Boiling Point</b>	~ 100°C
<b>Melting Point</b>	No information available.
<b>Vapour Pressure</b>	No information available.
<b>Vapour Density (Air = 1)</b>	No information available.
<b>Specific Gravity (H<sub>2</sub>O=1)</b>	1.2 g/cm <sup>3</sup> @ 20°C
<b>pH</b>	4 - 5
<b>Flash Point</b>	Not applicable.

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Corrosive in contact with metals.
<b>Incompatible Materials</b>	Aluminium, mild steel, iron.

<b>Hazardous Decomposition Products</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours.
<b>Hazardous Polymerization Conditions to Avoid</b>	No information available.
	No information available.

**11. TOXICOLOGICAL INFORMATION**

<b>Toxicity</b>	<p><b>Diquat dibromide:</b>            Oral LD<sub>50</sub> ( rat ) = 120 mg/kg            Oral LD<sub>50</sub> ( mouse ) = 233 mg/kg            Oral LD<sub>50</sub> ( rabbit ) = 188 mg/kg            Dermal LD<sub>50</sub> (rabbit) = 400 - 500 mg/kg</p> <p><b>Reproductive Effects:</b> No evidence of reproductive effects.</p> <p><b>Teratogenic Effects:</b> No evidence of teratogenic effects.</p> <p><b>Mutagenic Effects:</b> No evidence of mutagenic effects.</p> <p><b>Carcinogenic Effects:</b> No evidence of carcinogenic effects.</p> <p><b>Organ Toxicity:</b> In animals, diquat dibromide may affect the gastrointestinal tract, eyes, kidneys or liver, and the lungs.</p>
<b>Routes of Exposure</b>	Inhalation, ingestion, eye and skin
<b>Acute Health Effects</b>	<p>Inhalation: Toxic by inhalation. Nose bleeding and soreness of the throat may result from inhalation of spray mist. Harmful if swallowed. May cause irritation to mouth, throat and stomach. Possible symptoms of exposure include gastrointestinal discomfort and diarrhoea.</p> <p>Ingestion: throat and stomach. Possible symptoms of exposure include gastrointestinal discomfort and diarrhoea.</p> <p>Eye: Can cause eye irritation and possible damage.</p> <p>Skin: Can cause skin irritation. Not a skin sensitiser.</p>
<b>Chronic Health Effects</b>	No information available.
<b>Existing Conditions</b>	No information available.
<b>Aggravated by Exposure</b>	
<b>Carcinogenicity</b>	No (Safe Work Australia, NTP, IARC)

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	<p><b>Diquat dibromide:</b></p> <p><b>Birds:</b>            Diquat dibromide ranges from slightly to moderately toxic to birds.            Oral LD<sub>50</sub> ( Mallard ducks ) = 564 mg/kg            Oral LD<sub>50</sub> ( Hen ) = 200 - 400 mg/kg</p> <p><b>Aquatic Organisms:</b>            Diquat dibromide is moderately to practically nontoxic to fish and aquatic invertebrates.            LC<sub>50</sub> 96hr (Rainbow trout) = 12.3 mg/L            LC<sub>50</sub> 96hr (Yellow perch) = 60 mg/L            Diquat dibromide is non-toxic to bees.</p>
--------------------	--



## MATERIAL SAFETY DATA SHEET

**Mobility** Diquat dibromide is highly persistent, with reported field half-lives of greater than 1000 days. It is very well sorbed by soil organic matter and clay. Although it is water soluble, its capacity for strong adsorption to soil particles suggests that it will not easily leach through the soil.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods and containers** Instructions concerning the disposal of this product and its containers are given on the product label. 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

Classified as a dangerous good according to the Australian Code for the Transport of Dangerous goods by road or rail.

**UN Number** 1760  
**Proper Shipping Name** Corrosive Liquid Toxic, N.O.S. (contains diquat dibromide)  
**Dangerous Goods Class** 8  
**Hazchem Code** 2X  
**Packing Group** III  
**Special Precautions** Not applicable

Sea Transport:

**UN Number** 1760  
**Proper Shipping Name** Corrosive Liquid Toxic, N.O.S. (contains diquat dibromide)  
**Dangerous Goods Class** 8  
**Hazchem Code** 2X  
**Packing Group** III  
**Special Precautions** Not applicable

### 15. REGULATORY INFORMATION

Chlorothalonil is listed in the Australian Inventory of Chemical Substances (AICS).

**SUSDP Classification: S6**

### 16. OTHER INFORMATION

**Last Revision of MSDS** Rev 1.0 (31/08/2010)  
**Prepared by** MSDS.COM.AU Pty Ltd [www.msds.com.au](http://www.msds.com.au)



## MATERIAL SAFETY DATA SHEET

---

### Abbreviations Used

IARC: International Agency for Research on Cancer  
NTP: National Toxicology Program (U.S.)  
OSHA: Occupational Safety and Health Administration (U.S.)  
STEL: Short term exposure limit  
TWA: Time weighted average

### Emergency Contacts

<b>Titan Ag Pty Ltd</b>	<b>02 9986 2943</b>
<b>Titan Ag Pty Ltd – Emergency Number</b>	<b>02 9986 2943</b>
<b>Police and Fire Brigade</b>	<b>000</b>
<b>Poisons Information Centre</b>	<b>13 11 26</b>

The information contained in this material 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.

Please read instructions / label before using product.