



## MATERIAL SAFETY DATA SHEET

### TITAN DIFLUFENICAN 500 HERBICIDE

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

Product Name	Titan Diflufenican 500 Herbicide
Product Code	-
Other Names	-
Product Use	Agricultural Herbicide
Company Name	Titan Ag Pty Ltd
Address	3/14 Narabang Way Belrose NSW 2085
Telephone Number	02 9986 2943
Emergency Telephone	02 9986 2943

#### 2. HAZARDS IDENTIFICATION

##### NON HAZARDOUS SUBSTANCE. NON DANGEROUS GOODS.

Not classified as hazardous according to the criteria of Safe Work Australia.

Hazards	-
Risk Phrases	-
Safety Phrases	-

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient (common name)	CAS Number	Proportion
Diflufenican	83164-33-4	500 g/L
Ingredients deemed not to be hazardous	Proprietary	Balance

#### 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 symptoms persist.
Ingestion	If swallowed, do not use vomiting. Wash mouth with water and give some water to drink. Never give anything by mouth to an unconscious person. Seek medical attention if symptoms persist.
Skin	If skin or hair contact occurs, immediately remove contaminated clothing and wash skin and hair thoroughly with soap and plenty of water. Seek medical attention if symptoms persist.
Eyes	If in eyes, hold eyelids apart and flush the eye continuously with large amounts of water for at least 15 minutes. Seek medical attention if symptoms persist.

## 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. Carbon dioxide, dry chemical, foam and water fog.
<b>Hazardous Combustion Products</b>	Oxides of carbon and nitrogen and hydrogen fluoride.
<b>Firefighting Equipment</b>	Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing.
<b>Unusual Fire or Explosion Hazards</b>	The product is likely to decompose only after heating to dryness, followed by strong heating.
<b>Hazchem Code</b>	Not allocated.

## 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 and impervious elbow-length gloves. 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. After spills wash area preventing runoff from entering drains.
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## 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) Engineering Controls</b>	No exposure standards set.  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. See Australian Standards AS 1336 and AS/NZS 1337 for more information.
<b>Skin Protection</b>	Impervious elbow-length gloves, cotton overalls and washable hat. See Australian Standards AS 2161 and 2919 and AS/NZS 2210 for more information.
<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>	Viscous off-white/dark brown liquid suspension
<b>Odour</b>	Mild odour
<b>Solubility in Water</b>	Miscible
<b>Boiling Point</b>	~100°C
<b>Freezing Point</b>	No information available
<b>Vapour Pressure</b>	4.25 x 10 m <sup>-3</sup> kPa @ 25°C
<b>Vapour Density (Air = 1)</b>	No information available
<b>Specific Gravity (H<sub>2</sub>O=1)</b>	1.17g/mL @ 20°C
<b>pH</b>	No information available
<b>Flash Point (closed cup)</b>	>100°C
<b>Flammable Limit – Lower</b>	No information available
<b>Flammable Limit – Upper</b>	No information available

### 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions of use.
<b>Incompatible Materials</b>	Strong acids, strong bases and strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Oxides of carbon and nitrogen and hydrogen fluoride.
<b>Hazardous Polymerization Conditions to Avoid</b>	Will not occur. Extreme heat.

### 11. TOXICOLOGICAL INFORMATION

<b>Toxicity</b>	<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>
<b>Routes of Exposure</b>	Inhalation, ingestion, eye and skin
<b>Acute Health Effects</b>	<p>Inhalation: No respiratory effects nose and mouth.</p> <p>Ingestion: Harmful if swallowed.</p> <p>Eye: Will irritate eyes.</p> <p>Skin: Will irritate the skin. Harmful in contact with skin as this product can be absorbed through the skin.</p>



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<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>	<b>Diflufenican (technical):</b> Diflufenican is harmful to aquatic organisms.  <b>Aquatic organisms:</b> LC <sub>50</sub> 96hr (Rainbow trout) = 109 mg/L LC <sub>50</sub> 96hr (Carp) = 105 mg/L EC <sub>50</sub> 96hr (Algae) > 10 mg/L <b>Birds:</b> Oral LD <sub>50</sub> (Bobwhite quail) > 2150 mg/kg <b>Birds:</b> Oral LD <sub>50</sub> (Mallard duck) > 4000 mg/kg
<b>Mobility</b>	Diflufenican is not readily biodegradable. DT <sub>50</sub> varies from 85.6 – 282 days depending on soil type and water content. Does not bio-accumulate.

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal methods and containers</b>	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.
<b>Special precautions for landfill or incineration</b>	Please consult your state Land Waste Management Authority for more information.

### 14. TRANSPORT INFORMATION

Not classified as a dangerous good according to the Australian Code for the Transport of Dangerous goods by road or rail.

<b>UN Number</b>	Not applicable
<b>Proper Shipping Name</b>	Not applicable
<b>Dangerous Goods Class</b>	Not applicable
<b>Hazchem Code</b>	Not applicable
<b>Packing Group</b>	Not applicable
<b>Special Precautions</b>	Not applicable

Sea Transport:

<b>UN Number</b>	3082
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains diflufenican)
<b>Dangerous Goods Class</b>	9
<b>Hazchem Code</b>	3Z



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**Packing Group** III  
**Special Precautions** Not applicable

### 15. REGULATORY INFORMATION

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

### 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)  
**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>

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Please read instructions / label before using product.