

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

1 Identification

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE**Other Means of Identification:** Mixture**APVMA Approval Number:** 66351**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(L) or less; or IBCs (refer to SP AU01). However if transported by Air or Sea, this provision does not apply.



Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.

Toxic To Reproduction 1B H360 May damage fertility or the unborn child.



Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Skin Corrosion/Irritation 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sensitisation 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

Flammable Liquids 4 H227 Combustible liquid.

Signal Word Danger**Hazard Statements**

H227 Combustible liquid.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 1)









H351 Suspected of causing cancer.
 H360 May damage fertility or the unborn child.
 H335 May cause respiratory irritation.
 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash thoroughly after handling.
 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/hearing 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.
 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.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 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+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: 872-50-4	N-methyl-2-pyrrolidone  Toxic To Reproduction 1B, H360;  Skin Corrosion/Irritation 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	20-25%
CAS: 112-34-5	Diethylene glycol monobutyl ether  Eye Irrit. 2A, H319	15-20%
CAS: 1582-09-8	Trifluralin  Carcinogenicity 2, H351;  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Sensitisation 1, H317	10-15%
CAS: 19044-88-3	Oryzalin  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Sensitisation 1, H317	10-15%

Additional information: Liquid hydrocarbon, CAS No. not supplied

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 2)

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 symptoms occur.

Eye Contact:

In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek medical attention if symptoms occur.

Ingestion:

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Give a glass of water. Never give anything by mouth to an unconscious person. Seek medical attention.

Symptoms Caused by Exposure:

Inhalation: May cause respiratory irritation.

Skin Contact: Causes skin irritation, itchiness and reddening. May cause an allergic skin reaction, rash and inflammation.

Eye Contact: Causes serious eye irritation, stinging, reddening and watering.

Ingestion: May cause irritation to mucous membranes.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water fog, foam, dry chemical or carbon dioxide.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include oxides of carbon, nitrogen, oxides of nitrogen, other nitrogen compounds, hydrogen cyanide, hydrogen fluoride, other fluorine compounds and water.

Product is combustible.

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. 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.

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. Wash spill area, preventing runoff from entering drains.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 3)

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 heat, sparks, open flames, hot surfaces and direct sunlight. Keep away from strong oxidising agents.

8 Exposure Controls and Personal Protection

Exposure Standards:**CAS: 872-50-4 N-methyl-2-pyrrolidone**

WES	STEL: 309 mg/m ³ , 75 ppm TWA: 103 mg/m ³ , 25 ppm Sk
-----	---

Engineering Controls: Ensure adequate ventilation of the working area.

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:	Red
Odour:	Characteristic odour
Odour Threshold:	No information available
pH-Value:	No information available
Melting point/freezing point:	No information available
Initial Boiling Point/Boiling Range:	Undetermined.
Flash Point:	>63 °C
Flammability:	Product is combustible.
Auto-ignition Temperature:	Not applicable

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 4)

Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure at 20 °C:	13.7 mPa (trifluralin)
Relative Density at 20 °C:	1.07
Vapour Density:	No information available
Evaporation Rate:	No information available
Solubility in Water:	Emulsifies into water.

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.

Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials: Strong oxidising agents.

Hazardous Decomposition Products:

Oxides of carbon, nitrogen, oxides of nitrogen, other nitrogen compounds, hydrogen cyanide, hydrogen fluoride, other fluorine compounds and water.

11 Toxicological Information

Toxicity:

LD50/LC50 Values:

CAS: 872-50-4 N-methyl-2-pyrrolidone

Oral	LD50	3,914 mg/kg (rat)
	LD50	8,000 mg/kg (rabbit)

CAS: 112-34-5 Diethylene glycol monobutyl ether

Oral	LD50	5,660 mg/kg (rat)
	LD50	4,000 mg/kg (rabbit)

CAS: 1582-09-8 Trifluralin

Oral	LD50	>2,000 mg/kg (dog)
		>5,000 mg/kg (mouse)
		>10,000 mg/kg (rat)
		>2,000 mg/kg (rabbit)
	LD50	>2,000 mg/kg (rabbit)
Inhalation	LC50/4 h	>2.8 mg/l (rat)

Acute Health Effects

Inhalation: May cause respiratory irritation.

Skin:

Causes skin irritation, itchiness and reddening. May cause an allergic skin reaction, rash and inflammation.

Eye: Causes serious eye irritation, stinging, reddening and watering.

Ingestion: May cause irritation to mucous membranes.

Skin Corrosion / Irritation: Causes skin irritation.

Serious Eye Damage / Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitisation: May cause an allergic skin reaction.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 5)

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.**Carcinogenicity:** Suspected of causing cancer.**Reproductive Toxicity:** May damage fertility or the unborn child.**Specific Target Organ Toxicity (STOT) - Single Exposure:** May cause respiratory irritation.**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:** Prolonged exposure or delayed treatment may cause permanent eye damage.**Existing Conditions Aggravated by Exposure:** No information available**Additional toxicological information:**

The Australian Acceptable Daily Intake (ADI) for trifluralin for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 2.5 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 Australian Acceptable Daily Intake (ADI) for oryzalin for a human is 0.1 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOAEL of 12 mg/kg/day.

(Ref: Australian Pesticides and Veterinary Medicines Authority, 'Acceptable Daily Intakes for Agricultural and Veterinary Chemicals', 2021).

12 Ecological Information

Ecotoxicity:

Trifluralin is practically nontoxic to birds and bees.

Oral LD50 >2000 mg/kg (bobwhite quail)

Oral LD50 >2000 mg/kg (mallard duck)

Oral LD50 >2000 mg/kg (pheasant)

Trifluralin is toxic to earthworms

Aquatic toxicity:

Very toxic to aquatic life with long lasting effects.

CAS: 872-50-4 N-methyl-2-pyrrolidone

EC50/24 h >1,000 mg/l (daphnia)

EC50/72 h >500 mg/l (green algae)

LC50/96 h 1,072 mg/l (fathead minnow)

>5,000 mg/l (rainbow trout)

CAS: 112-34-5 Diethylene glycol monobutyl ether

EC50 >100 mg/l (algae)

EC50/48 h >100 mg/l (daphnia)

LC50/96 h 1,300 mg/l (Iepomis macrochirus)

LC50 >100 mg/l (golden orfe)

CAS: 1582-09-8 Trifluralin

LC50/96 h 0.05-0.07 mg/l (bluegill)

0.02-0.06 mg/l (rainbow trout)

LC50/48 h 0.5-0.6 mg/l (daphnia)

Persistence and Degradability: Moderately to highly persistent. Half-life in soil: 45 days - 8 months.**Bioaccumulative Potential:** No data available on finished product.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 6)

Mobility in Soil: No data available on finished product.**Other adverse effects:** No further relevant 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	UN3082
ADG, IMDG, IATA	
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Trifluralin, Oryzalin)
ADG, IATA	
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Trifluralin, Oryzalin), MARINE POLLUTANT
Dangerous Goods Class	
ADG Class:	9
Subsidiary Risk:	
Packing Group:	
ADG, IMDG, IATA	III
Marine pollutant:	Symbol (fish and tree)
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)
Limited Quantities:	5L
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: 5

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 03.12.2021

Revision: 03.12.2021

Product Name: TITAN TRIFLURALIN-ORYZALIN 250 EC SELECTIVE HERBICIDE

(Contd. of page 7)

Australian Pesticides and Veterinary Medicines Authority:

This product is registered with the Australian Pesticides and Veterinary Medicines Authority. APVMA number 66351.

16 Other Information**Date of Preparation or Last Revision:** 03.12.2021**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)

Flammable Liquids 4: Flammable liquids – Category 4

Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sensitisation 1: Skin sensitisation, Hazard Category 1

Carcinogenicity 2: Carcinogenicity – Category 2

Toxic To Reproduction 1B: Reproductive toxicity – Category 1B

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

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”

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.