



SAFETY DATA SHEET

PROLAN 500 FLOWABLE HERBICIDE

Section 1 Product Identification & Chemical

Chemical Name: Oryzalin is a 2,6-dinitroaniline derivative.
Product Name: Prolan 500 Flowable Herbicide

Relevant Identified Use of the Substance

An Agricultural Herbicide for use as described on the product label

Details of the Supplier of the Safety Data Sheet

Company Name: Agricrop Pty Ltd (ABN: 84 100 473 309)
Street Address: 255 Port Road, Hindmarsh SA 5007
Telephone: 07 3348 4113 (office hours)
Facsimile: 07 3348 2702

Emergency Telephone Number

Emergency Contact: 1800 033 111 (24 hours)
Poisons Information Centre: Phone 13 1126 from anywhere in Australia
Police of Fire Brigade: 000

Other Information

This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments may not apply to the properties of the product once it has been diluted for application.

Section 2 Hazards Identification

Statement of Hazardous Nature

This product is classified as: Not classified as hazardous according to the criteria of SWA Australia. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

SUSMP Classification: None allocated.

ADG Classification: None allocated. Not a Dangerous Good.

UN Number: None allocated

GHS Signal word: NONE. Not hazardous.

PREVENTION

P102: Keep out of reach of children.
P262: Do not get in eyes, on skin, or on clothing.
P281: Use personal protective equipment as required.

RESPONSE

P337: If eye irritation persists: seek medical attention.
P353: Rinse skin or shower with water.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P370+P378: Not combustible. Use extinguishing media suited to burning materials.

STORAGE

P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.



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DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & colour:	Bright orange coloured liquid.
Odour:	Mild odour.
Major Health Hazards:	Oryzalin is practically nontoxic by ingestion, with reported oral LD50 values of greater than 5000 mg/kg in rats and mice, and greater than 1000 mg/kg in cats, dogs, and chickens. The dermal LD50 for technical Oryzalin in rabbits is greater than 2000 mg/kg, indicating slight to practically no toxicity by this route. It is reported to cause slight skin and eye irritation in the rabbit, and no skin sensitization in the guinea pig

Section 3**Composition/Information on Ingredients**

Ingredients	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Oryzalin	19044-88-3	50	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4**First Aid Measures****General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed.

Ingestion: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Section 5**Fire Fighting Measures**

Fire and Explosion Hazards: There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures. This product is likely to decompose only after heating to dryness, followed by further strong heating.

Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade.

Flash point: Will not burn until water component is driven off.

Upper Flammability Limit: Does not burn.

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Lower Flammability Limit: Does not burn.

Autoignition temperature: Does not burn.

Flammability Class: Does not burn.

Section 6	Accidental Release Measures
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Accidental release: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. 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. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7	Handling and Storage
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Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Make sure that containers of this product are kept tightly closed. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8	Exposure Controls and Personal Protection
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The following Australian Standards will provide general advice regarding safety clothing and equipment
Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Exposure limits have not been established by SWA for any of the significant ingredients in this product.		

The ADI for Oryzalin is set at 0.1mg/kg/day. The corresponding NOEL is set at 12mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2013.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that dusts are minimised.

Eye Protection: Eye protection is not normally necessary when this product is being used. However, if in doubt, wear suitable protective glasses or goggles.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when handling this product.

Protective Material Types: There is no specific recommendation for any particular protective material type.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Section 9	Physical and Chemical Properties
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Physical Description & colour:	Bright orange coloured liquid.
Odour:	Mild odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	Approximately 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	No data.
Specific Gravity:	1.18 approx
Water Solubility:	Completely soluble in water.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	Oryzalin 3.73 at pH 7 (log P octanol/water)
Autoignition temp:	Does not burn.

Section 10	Stability and Reactivity
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Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C.

Incompatibilities: strong oxidising agents.

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Water.

Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.

Polymerisation: This product is unlikely to undergo polymerisation processes.

Section 11	Toxicology Information
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Toxicity: Acute toxicity: Oryzalin is practically nontoxic by ingestion, with reported oral LD50 values of greater than 5000 mg/kg in rats and mice, and greater than 1000 mg/kg in cats, dogs, and chickens. The dermal LD50 for technical Oryzalin in rabbits is greater than 2000 mg/kg, indicating slight to practically no toxicity by this route. It is reported to cause slight skin and eye irritation in the rabbit, and no skin sensitization in the guinea pig. It is also slightly toxic when inhaled, with a 4-hour inhalation LC50 of greater than 3 mg/L in rats. Formulated products may show moderate toxicity by either the oral or inhalation routes, and may show skin and eye irritation and skin sensitization properties. In dogs and cats, large oral doses cause nausea and vomiting.

Chronic toxicity: Rats fed a dietary level of about 2.5 mg/kg/day for 2 years exhibited blood changes, increased liver and kidney weights, inhibition of growth, and decreased survival. Repeated ingestion of large doses led to adverse changes in blood cell formation in dogs. Mice given dietary doses of about 200 mg/kg/day for 1 year exhibited decreased uterine and ovarian weights. Those exposed to doses of 75 mg/kg/day showed no observable effects.

Reproductive effects: There were no adverse effects on reproduction in a three-generation study of rats fed dietary concentrations of 12.5, 37.5, or 112.5 mg/kg/day, the highest dose tested. foetotoxic effects

appeared at 12.5 mg/kg/day. It does not appear that Oryzalin causes reproductive effects.

Teratogenic effects: There were no birth defects in the offspring of pregnant rats fed dietary concentrations as high as 112 mg/kg/day for three generations, nor in the offspring of pregnant rabbits given doses of 125 mg/kg/day, the highest dose tested. It appears that Oryzalin is unlikely to cause teratogenic effects.

Mutagenic effects: Oryzalin was not mutagenic in several tests, including tests on live rats and mice and on bacterial cell cultures. It does not appear that Oryzalin is mutagenic.

Carcinogenic effects: When Oryzalin was fed to rats in doses as high as 135 mg/kg/day for 2 years, there was an increase in the incidence of thyroid, mammary, and skin tumors. Thyroid tumors and benign skin and mammary tumors occurred in rats fed a dietary level of 45 mg/kg/day for 2 years. However, there were no tumors in mice fed doses as high as 548 mg/kg/day for 2 years. Because of these conflicting results, it is not possible to assess the carcinogenicity of Oryzalin.

Organ toxicity: Oryzalin has shown systemic effects on the thyroid, liver, and kidneys, as well as blood chemistry, in animal tests.

Fate in humans and animals: Oryzalin is moderately well-absorbed from the gastrointestinal tract, and rapidly metabolized and eliminated following absorption. When Oryzalin was administered to male rats, 40% of the dose was excreted in the urine and 40% in the faeces within 3 days. Similar results were obtained in tests with rabbits, a steer, and with Rhesus monkeys.

Potential Health Effects

See above for Chronic exposure studies.

Inhalation

Short term exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Skin Contact:

Short term exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

Eye Contact:

Short term exposure: Available data shows that this product is not harmful. However product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

Ingestion:

Short term exposure: Available data shows that this product is not harmful. This product is unlikely to cause any irritation problems in the short or long term.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12

Ecological Information

Breakdown in soil and groundwater: Oryzalin is of low to moderate persistence in the field, with reported field half-lives ranging from 20 to 128 days. A representative value for soil half-life is estimated to be 20 days. Microbial degradation is mainly responsible for the breakdown of Oryzalin in soils, but it may undergo photodecomposition near the soil surface. Volatilization is not appreciable. Oryzalin is slightly soluble in water and it does not have a strong tendency to adsorb to soil particles. It is bound to a greater extent with increasing soil organic matter and clay content. In soils with low proportions of these, high water tables and increased rainfall, Oryzalin may be mobile, and thus present a risk of contamination to groundwater.

Breakdown in water: No breakdown of Oryzalin by hydrolysis was observed at pH 5, 7, and 9. Based on its behavior in soil, breakdown by microbial processes is probably slow in the aquatic environment due to low levels of oxygen and low microbial activity. Photodegradation may be significant in the upper portions

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of the water column.

Breakdown in vegetation: Oryzalin is readily absorbed via the roots, and plant metabolism of Oryzalin is minimal.

Section 13	Disposal Considerations
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Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

Section 14	Transport Information
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UN Number: This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

Section 15	Regulatory Information
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AICS: All of the significant ingredients in this product are compliant with NICNAS regulations.

Section 16	Other Information
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This SDS contains only safety-related information. For other data see product literature.

Date of Preparation or revision: Revised 28 December 2016
This SDS replaces MSDS of 8 February 2016

Revision Highlights: This SDS was reviewed to include GHS requirements

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
AICS	Australian Inventory of Chemical Substances
CAS number	Chemical Abstracts Service Registry Number
Hazchem Number	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
SWA	Safe Work Australia, formerly ASCC and NOHSC
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

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This Safety Data Sheet has been prepared by Agricrop Pty Ltd.

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. As Agricrop Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to use, assess and control the risks arising from its use of the material.

Nothing contained in this SDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this SDS for the users' particular situation. If clarification or further information is needed, the user should contact Agricrop Pty Ltd at the contact details on page 1.

Please read all labels carefully before using product

End of SDS.