



MATERIAL SAFETY DATA SHEET

Rygel Metribuzin 750 WG Herbicide

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Supplier: Profeng Australia Pty Ltd
ACN: 156 055 533
Street Address: 103 Ordish Road, Dandenong South, Vic 3175
Telephone: (03) 9768 2803
Facsimile: (03) 9768 2804

Emergency telephone number: National Poisons Information Centre:
Phone Australia 13 11 26.

Product name: Rygel Metribuzin 750 WG Herbicide
Product Use: A herbicide for selective weed control in cereals, pastures and other crops, including vegetables.

2. HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of ASCC. Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R22, R50/53. Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety Phrases: S2, S20, S22, S60, S61, S24/25, S36/37. Keep out of reach of children. When using, do not eat or drink. Do not breathe dust. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

SUSDP Classification: S6

ADG Classification: None allocated. Not a Dangerous Good under the ADG

Code.

UN Number: None allocated**Pictogram:****Signal word** Warning**Hazard statement(s)**

H302 Harmful if swallowed

H320 Causes eye irritation

Precautionary statement(s)

P262 Do not get in eyes, on skin, or on clothing

P402+P404 Store in a dry place. Store in a closed container

P501 Dispose of contents/ container to an approved waste disposal plant

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc. %
Metribuzin	21087-64-9	750g/kg
Other non-hazardous ingredients	secret	to 100

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

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 11 26 from anywhere in Australia and is available at all times. Have this MSDS 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: Gently brush away excess solids. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently brush particles from eyes. 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. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.



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Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

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. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. This product, if scattered, may form flammable or explosive dust clouds in air. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. Do not scatter spilled material with high-pressure water jets.

Flash point: Combustible Solid

Upper Flammability Limit: No data

Lower Flammability Limit: No data

Auto ignition temperature: No data

Flammability Class: Combustible Solid

6. ACCIDENTAL RELEASE MEASURES

Accidental release: In the event of a major spill, prevent spillage from entering drains or watercourses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable Dust Mask. Use a P1 mask, designed for use against mechanically generated particles e.g. silica & asbestos. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. 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 MSDS 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.

7. HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in



work areas. Check Section 8 of this MSDS 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: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under 'Incompatibilities' 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

ASCC Exposure Limits	TWA (mg/m³)	STEL (mg/m³)
Metribuzin	5	not set

The ADI for metribuzin is set at 0.02mg/kg/day. The corresponding NOEL is set at 2mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2006.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

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 skin contact is likely.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC.

Respirator: If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask.

Safety deluge showers should, if practical, be provided near to where this product is being used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Description & colour	Off-white to beige coloured granules
Odour	Mild solvent odour
Boiling Point	No specific data. Expected to decompose before boiling.
Freezing/Melting Point	No specific data. Solid at normal temperatures. Metribuzin melts at 126°C
Volatiles	No specific data. Expected to be low at 100°C.
Vapour Pressure	0.058 mPa at 20°C
Vapour Density	No data
Specific Gravity	1.28
Water Solubility	Emulsifiable
pH	No data
Volatility	No data
Odour Threshold	No data
Evaporation Rate	No data
Coeff Oil/water distribution	Metribuzin: 1.6 at pH 5.6 and 20°C
Auto ignition temp	No data

10. STABILITY AND REACTIVITY

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: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases, 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 in reducing atmospheres. Oxides of sulphur (sulphur dioxide is a respiratory hazard) and other sulphur compounds. Most will have a foul odour. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product is unlikely to undergo polymerisation processes.

11. TOXICOLOGICAL INFORMATION

Toxicity: Acute toxicity: Metribuzin is harmful orally, with reported oral LD₅₀ values of 1090 to 2300 mg/kg in rats, 700 mg/kg in mice and 245 to 274 mg/kg in guinea pigs. It is practically nontoxic dermally, with a dermal LD₅₀ of 20,000 mg/kg in rabbits. The 4-hour inhalation LC₅₀ for metribuzin in rats is greater than 0.65 mg/L, indicating moderate toxicity via the inhalation route. Metribuzin has been shown not to irritate the skin or eyes of rats,

rabbits, guinea pigs, or human volunteers. Effects of high acute exposure in metribuzin poisoned rats included narcosis (stupor) and laboured breathing. Deaths occurred within 24 hours, and survivors recovered slowly without permanent effects.

Chronic toxicity: No ill effects were observed in dogs fed dietary doses of 12.5 mg/kg/day for 3 months. No effects were apparent in rats receiving 2.5 mg/kg/day over 3 months, but doses of 25 and 75 mg/kg/day caused enlarged livers and thyroid glands. In 2-year feeding studies with rats and dogs, results showed no observable effects at doses of 5 mg/kg/day in rats and 2.5 mg/kg/day in dogs. Reduced weight gain, an increase in the number of deaths, blood chemistry changes, and liver and kidney damage were observed in a 2-year study in which dogs were given 1500 ppm or 37.5 mg/kg/day of metribuzin.

Reproductive effects: Doses of 15, 45, or 135 mg/kg/day of technical metribuzin were administered by gavage to rabbits on days 6 through 18 of pregnancy. No effects on the mothers were observed at a dose of 45 mg/kg, but 135 mg/kg lowered maternal weight gain. No effects on the foetuses were observed at any of the doses tested. A three-generation study in rats at doses of up to 15 mg/kg/day (the highest dose tested), showed no influence on reproduction. Metribuzin does not cause reproductive effects.

Teratogenic effects: In rats, reduced foetal body weights were seen at doses of 70 mg/kg/day, and developmental delays were observed at doses of 200 mg/kg/day. Metribuzin did not show teratogenic activity in rabbits at doses of up to 85 mg/kg/day, but did decrease weight gain in offspring. These data suggest that metribuzin is unlikely to cause teratogenic effects in humans under normal circumstances.

Mutagenic effects: Tests on live animals and on tissue cultures have shown that metribuzin has no mutagenic activity. **Carcinogenic effects:** There were no indications of carcinogenic effects in rats receiving dietary doses of up to 15 mg/kg/day for 2 years, nor in mice fed up to about 380 mg/kg/day for 2 years. These data suggest that metribuzin is not carcinogenic.

Organ toxicity: In single high dose studies, metribuzin appears to depress the central nervous system. Other studies indicate that the target organs of metribuzin are the thyroid gland and the liver. **Fate in humans and animals:** After metribuzin is absorbed, it is rapidly distributed in the body and excreted unchanged in the urine. In mammals, 90% elimination occurs within 96 hours, about equally distributed between the urine and faeces.

12. ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. **Breakdown in soil and groundwater:** Metribuzin is of moderate persistence in the soil environment. The half-life of metribuzin varies according to soil type and climatic conditions. Soil half-lives of 30 to 120 days have been reported; a representative value may be approximately 60 days. Metribuzin is poorly bound to most soils and soluble in water, giving it a potential for leaching in many soil types. Soil mobility is affected by many site-specific variables, including the amount of soil organic matter, particle size distribution,



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porosity, rainfall, and application rates. Metribuzin has been detected in Ohio rivers and Iowa wells and groundwater. The major mechanism by which metribuzin is lost from soil is microbial degradation. Losses due to volatilization or photodegradation are not significant under field conditions.

Breakdown in water: The half-life of metribuzin in pond water is approximately 7 days. If present, metribuzin would most likely be found in the water column rather than the sediment, due to its low binding affinity and high water solubility.

Breakdown in vegetation: Metribuzin is absorbed through the leaves when plants are given surface treatment, but the primary route for uptake is through the root system. From the roots, it is translocated upward, becoming concentrated in the roots, stems, and leaves of treated plants. In non-susceptible plants it is de-aminised to more water-soluble conjugates; in susceptible plants it is not metabolized and disrupts photosynthesis in the chloroplast.

13. DISPOSAL CONSIDERATIONS

Disposal: Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed. 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.

14. TRANSPORT INFORMATION

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

15. REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Metribuzin, is mentioned in the SUSDP.

16. OTHER INFORMATION

All information contained in this document is as accurate as possible based on information submitted by raw material suppliers. **Profeng Australia Pty Ltd** will not be responsible for any damages that may result from reliance on the information contained herein.