



MATERIAL SAFETY DATA SHEET

Rygel 2, 4-D IPA 300 Herbicide

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Supplier: Profeng Australia Pty
A.C.N.: 156 055 533
Street Address: 103 Ordish Road, Dandenong South, Vic 3175
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Emergency telephone number: National Poisons Information Centre: Dial 13 11 26.

Product name: Rygel 2, 4-D IPA 300 Herbicide
Product Type: Group I Herbicide
Formulation type: Aqueous concentrate
Chemical type: Aryloxyalkanoic acid

Product Use: For the control of emerged broadleaf weeds prior to sowing crops and pastures in conservation tillage situations and for selective weed control in crops and situations detailed in the Directions for Use.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Entity	CAS No	Proportion
2, 4-D (present as the isopropylamine salt)	94-75-7	300 g/L
N-methylpyrrolidone	872-50-4	5 %
Water to		100 %

3. HAZARDS IDENTIFICATION

Harmful by inhalation, in contact with skin and if swallowed.

Other Information Poisons Schedule 5

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered.

Ingestion If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust).



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Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 30ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.

Skin Remove contaminated clothing and launder before re-use. Wash affected areas thoroughly with soap and water.

Eye If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.

First Aid Facilities If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 (Australia).

Advice to Doctor Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing Media If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

Hazardous Combustion Products

Non-flammable. May emit toxic fumes of hydrogen chloride or phosgene if involved in fires or exposed to extreme heat.

Protective Equipment Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.

Personal Protection For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions

Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Handling For personal protective equipment (PPE) and hygiene advice, refer Section 8.

Storage Store in the closed, original container in a cool, well ventilated area. Do not store



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for prolonged periods in direct sunlight.

Other Information Equipment that has been used for this chemical should not be used for the application of other materials to sensitive plants, unless it has been well washed out with hot soapy water or 1% solution of ammonia, followed by several clear water rinses.

Do not use on or in situations where damage to susceptible crops or plants such as cotton, tobacco, tomatoes, flowers, vines, fruit trees or other susceptible crop plants may result from direct application or drift.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits No exposure standard for this product has been set, however, an exposure standard has been set for 2,4-D acid (solid) at 10 mg/m³.

Other Exposure Information

DFG (Germany) has set the following exposure standards for N-methyl pyrrolidone MAK TWA 80 mg/m³; PEAK II (2).

Respiratory Protection Do not inhale spray mist.

Personal Protective Equipment

When preparing spray, wear PVC or rubber apron, elbow length PVC gloves and face shield. When using the prepared spray, wear face shield.

Eng. Controls Handle in well ventilated areas, generally natural ventilation is adequate.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, brown liquid
Odour	Fish like odour
Melting Point	<0°C
Solubility in Water	Soluble in water
Boiling Point	100°C
Specific Gravity (H₂O=1)	1.107
Vapour Pressure	16mm Hg (for water), 2,4-D amines are non-volatile
Volatile Component	60% (water)
Flammability	Non combustible material
Ignition Temperature	N/A
Flammable Limits LEL	N/A

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Hazardous Polymerization Hazardous polymerisation is not possible.



Materials to Avoid Reaction of the concentrate or spray mix with acids will precipitate solid 2,4-D acid and largely de-activate the product and cause blockages in spray equipment. The addition of a strong alkali such as caustic soda will cause release of mono-isopropylamine vapour. Mono-isopropylamine is moderately toxic, LD50 (oral, rat) is 820 mg/kg and a TLV of 5 ppm (TWA) has been set.

11. TOXICOLOGICAL INFORMATION

No harmful effects are expected if the precautions on the label and this MSDS are followed.

Inhalation A moderate hazard exists from inhalation of spray and care should be taken to avoid inhalation of spray mists.

Ingestion The concentrate is harmful if swallowed. Ingestion of 2,4-D in relatively large amounts can result in headache, nausea, lethargy, motor weakness and incoordination.

Skin Prolonged contact with the concentrate may cause irritation. Prolonged contact of the concentrate with skin will result in absorption of some 2,4-D which can be harmful.

Eye The concentrate may cause irritation of the eyes unless washed off immediately.

Chronic Effects Chronic Overexposure: Repeated absorption of relatively large amounts of 2,4-D presents a risk to the liver and kidneys.

Acute Toxicity - Oral LD50 (rat) 699 mg/kg for 2,4-D acid

LD50 (rat) 820 mg/kg for mono-isopropylamine

LD50 (rat) 4200 mg/kg for N-methyl pyrrolidone (NMP)

Acute Toxicity - Dermal

LD50 (rabbit) >2000 mg/kg for 2,4-D acid

LD50 (rabbit) 8000 mg/kg for N-methyl pyrrolidone (NMP)

Acute Toxicity - Inhalation

LC50 (rat) (4hr) >1.79 mg/L for 2,4-D

Other Information In trials using 2,4-D as a drug, studies on volunteers have shown that doses of between 5 and 36 mg/kg body weight do not cause any acute toxic effects.

Formulated 2,4-D products can be absorbed by ingestion, inhalation (spray mist) and through the skin. Studies of users (applicators) have shown that absorption through the skin is the most common route. When used with good agricultural spraying practice and good personal hygiene, absorption of 2,4-D is very low. 2,4-D does not accumulate in the body; a single dose of 2,4-D is rapidly excreted (in a few days), mainly in the urine.

The Australian Acceptable Daily Intake (ADI) for 2,4-D for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.0 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).



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12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment

2,4-D products do not appear to pose any threat to birds. 2,4-D products do not appear to pose any threat to fish or other aquatic organisms other than in very high concentrations.

Acute Toxicity - Fish LC50 (96 hr) for (rainbow trout) is >100 mg/L.

Acute Toxicity - Daphnia

LC50 (48 hr) for (daphnia) is 184 mg/L for 2,4-D (2,4-dichlorophenoxyacetic acid) dimethylamine salt.

Acute Toxicity – Other Organisms

Not toxic to bees. LD50 for (mallard duck) is >500 mg/kg.

13. DISPOSAL CONSIDERATIONS

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).

Container Disposal Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.

14. TRANSPORT INFORMATION

It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number None Allocated

Proper Shipping Name None Allocated

DG Class None Allocated

Hazchem Code None Allocated

Packing Group None Allocated

Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

IMDG UN No.: Not a marine pollutant.

15. REGULATORY INFORMATION

Risk Phrases



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R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Safety Phrases

S13 Keep away from food, drink and animal feeding stuffs.

S2 Keep out of reach of children.

Poisons Schedule S5

Hazard Category Harmful

Packaging & Labelling

CAUTION

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

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.