



# MATERIAL SAFETY DATA SHEET

## Rygel Trifluralin 480 Selective 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 Trifluralin 480 Selective Herbicide  
**Product Use:** A pre-emergence herbicide for the control of annual grasses and certain broadleaf weeds in certain horticultural and agricultural crops as listed in the Directions for Use table on the label  
**Product Type** Group D Herbicide

### 2. HAZARDS IDENTIFICATION

#### Statement of Hazardous Nature

This product is classified as: Xi, Irritating. Xn, Harmful. Hazardous according to the criteria of SWA Australia. This product does not meet the criteria of the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid so must be stored and handled as specified in AS 1940 "The storage and handling of flammable and combustible liquids."

**Risk Phrases:** R36, R43, R65. Irritating to eyes. May cause sensitisation by skin contact. Harmful: May cause lung damage if swallowed.

**Safety Phrases:** S23, S28, S46, S62, S24/25, S36/37. Do not breathe vapours or spray mist. After contact with skin, wash immediately with plenty of water. If swallowed, contact a doctor or Poisons Information Centre immediately and show this container or label. If swallowed, do not induce vomiting: seek medical advice immediately and show this SDS. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

**SUSMP Classification:** S5

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

UN Number: None allocated

Pictogram:



Signal word: Danger

Hazard statement(s)

H227 Combustible liquid.

H304 May be fatal if swallowed and enters airways

H320 Causes eye irritation

Precautionary statement(s)

P264 Wash contacted areas thoroughly after handling.

P403+P235 Store in a well-ventilated place. Keep cool.

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

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

| Chemical Entity          | CAS NO.                         | Proportion<br>(% weight/volume) |
|--------------------------|---------------------------------|---------------------------------|
| Trifluralin              | 1582-09-8                       | 480 g/L                         |
| Liquid Hydrocarbon       | 64742-94-5                      | 557 g/L                         |
| <b>Other Information</b> | di-n-propylnitrosamine < 0.5ppm |                                 |

**4. FIRST AID MEASURES****Inhalation** Remove affected person to fresh air until recovered. Apply CPR if there is no breathing and NO pulse.**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). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.**Skin** Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use.**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.



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If vomiting occurs, solvent present may cause pulmonary pneumonitis.

### 5. FIRE-FIGHTING MEASURES

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

#### Specific Hazards

**Hazardous Combustion Products:** If involved in a fire, it will emit hydrogen fluoride, oxides of nitrogen and possibly cyanides.

**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:** This product is a herbicide and spills can damage crops, pastures and desirable vegetation. Prevent from entering drains, waterways or sewers.

### 7. HANDLING AND STORAGE

**Precautions for Safe Storage:** Store in the closed, original container in a dry, well-ventilated area out of direct sunlight. Do not store near oxidisers.

Do not store below 5 °C. Extended storage below 5°C can result in the formation of crystals on the bottom of the container. If crystallisation does occur, store the container on its side at room temperature and rock occasionally until crystals re-dissolve.

Ensure any crystals are dissolved before adding to the spray tank.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### National occupational exposure limits:

No exposure standards have been set for this product or the active ingredients.

The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m<sup>3</sup>: 15ppm TWA, as total hydrocarbon.

**Engineering Controls** Handle in well-ventilated areas, generally natural ventilation is adequate.

**Personal protection equipment:** When opening the container and preparing the spray



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wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. Sensitive workers should use protective clothing.

**Respiratory Protection:** Do not inhale spray mist.

**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

|   |   |
|---|---|
| <b>Appearance:</b>                          | Bright orange, clear liquid                                 |
| <b>Odour:</b>                               | Solvent odour   |
| <b>Melting Point:</b>                       | Some crystallisation occurs between 0 and -7°C              |
| <b>Solubility in Water:</b>                 | Disperses in water  |
| <b>Boiling Point:</b>                       | 183-210°C (for solvent)                                     |
| <b>Specific Gravity (H<sub>2</sub>O=1):</b> | ca. 1.10  |
| <b>Vapour Pressure:</b>                     | 0.5 kPa @ 38°C for solvent, 13.7 mPa @ 25°C for trifluralin |
| <b>Vapour Density (Air=1):</b>              | 4.8 (solvent)   |
| <b>Volatile Component:</b>                  | 51% v/v   |
| <b>Flash Point:</b>                         | 103°C   |
| <b>Flammability:</b>                        | Combustible. C1   |
| <b>Ignition Temperature:</b>                | 443°C (solvent)   |
| <b>Flammable Limits LEL:</b>                | 0.9% (for solvent)  |
| <b>Flammable Limits UEL:</b>                | 6% (for solvent)  |

### 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions. Do not store below 5°C.

#### **Hazardous Polymerisation**

Hazardous polymerisation is not possible.

**Materials to Avoid** Prolonged reaction with water can cause slow decomposition and the formation of acid, which may attack drums. If a part open drum is to be stored, ensure that no water has been added to the drum.

**Hazardous Reaction** Violent reactions between this product and oxidising agents are possible.

### 11. TOXICOLOGICAL INFORMATION

No harmful effects are expected if the precautions on the label and this MSDS are followed. Rygel trifluralin (technical) is manufactured to comply with a maximum limit of 0.5ppm di-n-propylnitrosamine; generally, the levels are not detectable at a detection limit of 0.2ppm.



The final product specification is set in accordance with the current FAO specification of max 0.5ppm di-n-propylnitrosamine.

**Inhalation** When applying the product as a spray avoid breathing in spray mists. High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, can be an aesthetic and may have other central nervous system effects.

**Ingestion** The concentrate is of low toxicity if swallowed. However, swallowing of large amounts may cause injury, mainly due to the solvent. If aspirated into the lung, e.g. from vomiting, the presence of the solvent may result in chemical pneumonitis or other lung damage.

**Skin** Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis. May cause sensitisation by prolonged skin contact.

**Eye** The concentrate may cause irritation of the eyes.

**Chronic Effects** No chronic effects of trifluralin exposure have been documented in the literature over many years of use, other than relatively rare skin sensitisation.

**Carcinogenicity** Early experiments on animals indicated that trifluralin was a carcinogen. This has since been found to be due to an impurity, di-n-propylnitrosamine, a known carcinogen, present in crude trifluralin at about 80 - 100 ppm.

Later experimentation with trifluralin on mice and rats given high doses of material containing 1ppm or less of di-n-propylnitrosamine have not shown any tumour formation. Daily doses for rats were 202-392 mg/kg/day and for mice 256-664 mg/kg/day. Thus trifluralin itself is considered to be non-carcinogenic.

**Acute Toxicity – Oral**

LD50 (rat) >10,000 mg/kg for trifluralin

LD50 (mouse) 5,000 mg/kg for trifluralin

In 2 year feeding trials, rats receiving 2,000 mg/kg diet suffered no ill effects.

In 2 year feeding trials, dogs receiving 1,000 mg/kg body weight suffered no ill effects.

**Other 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 NOEL 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. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).

**12. ECOLOGICAL INFORMATION**

**Other Precautions** Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product.

**Environ. Protection:** Marine pollutant. Spray drift can cause damage.

**Persistence / Degradability**

Trifluralin degrades in soil at a relatively moderate rate, about 85 - 90% of the material is lost



in normal soil in 1/2 to 1 year.

**Acute Toxicity – Fish**

The following is data for the active ingredient, trifluralin.

LC50 (96 hr) for young rainbow trout is 0.088 mg/L

LC50 (96 hr) for young bluegill sunfish is 0.089 mg/L

**Acute Toxicity -Daphnia**

LC50 (48 hr) for daphnia is 0.245 mg/L

**Acute Toxicity – Other Organisms**

Birds: Not toxic to birds. LD50 for bobwhite quail is >2,000 mg/kg

Bees: Not toxic to bees. LD50 >100 µg/bee

**13. DISPOSAL CONSIDERATIONS**

**Container Disposal**

Do not use this container for any other purpose.

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.

**Returnable containers:** empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses. Empty containers and product should not be burnt.

**14. TRANSPORT INFORMATION**

**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.

**15. REGULATORY INFORMATION**

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



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### 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.