



RANGER Herbicide

1. PRODUCT & COMPANY IDENTIFICATION

Product Identification: Ranger
Product Use: Herbicide
Company Identification: Rainbow & Brown Limited
68A Tallyho Street, Rotorua, New Zealand
PO Box 10049, Mail Centre, Rotorua, 3046
Telephone: (07) 350 2009
Fax: (07) 350 2008
Toll-Free Phone: (0508) 299 299
Website: www.rainbowbrown.co.nz
Date of Issue: July 2015

2. HAZARDS IDENTIFICATION

Hazard Classifications: 9.1A, 9.2A
Hazard Descriptions: Ecotoxic in the aquatic and soil environments.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<i>Ingredient</i>	<i>CAS Number</i>	<i>Proportion</i>
• Thifensulfuron-methyl	79277-27-3	75%
• Ingredients not contributing to the hazards		Balance

4. FIRST AID MEASURES

Eyes: Flush with cold water immediately for at least 15 minutes. Seek medical advice.
Skin: Wash skin well with soap and water. Wash contaminated clothing before re-use.
Ingestion: No specific intervention indicated; product is unlikely to be hazardous by ingestion. However, if necessary contact a doctor, or the Poisons Information Centre ... (0800 POISON – 0800 764 766).
Inhalation: If dust is inhaled, move to fresh air. If breathing difficulty is experienced seek medical attention.
Advice to Doctor: No specific antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point:	None. Not a fire or explosion hazard, but may be ignited by heat or open flame.
Flammable Limits:	LFL 0.25g/L in air UFL Not Applicable
Extinguishing Media:	Water spray, dry chemical, CO ₂
Fire & Explosion Hazards:	Under severe dusting conditions may form explosive mixture in air.
Fire Fighting Equipment:	Use self-contained breathing apparatus.
Fire Fighting Instructions:	If area is heavily exposed to fire and conditions permit, allow fire to burn itself out as water may increase the contaminated area.
HAZCHEM:	2X

6. ACCIDENTAL RELEASE MEASURES

Spills:	Shovel or sweep up. Do not flush with water. Place spilled material in a container for disposal.
---------	---

7. HANDLING AND STORAGE

Handling:	Read the storage/handling precautions on the product label. Avoid eye, skin & clothing contact. Avoid inhaling vapour, dust or spray mist. After work, remove protective clothing and equipment, wash hands before eating, drinking, smoking or using toilet. Wash clothing after use.
Storage:	Store in tightly closed original container in a cool, dry, well-ventilated and secure area when not in use. Do not store with food, feedstuffs, seed or fertilisers. Do not store with classes 1,2,3.2,4 or 5 substances. Stores containing more than 100kg of this product, either alone or in aggregate with other hazardous substances, are subject to a requirement for an emergency response plan, secondary containment and signage.

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure Guidelines:	AEL 5mg/m ³ (8 & 12 hour TWA)
Engineering Controls:	Use only with adequate ventilation.
Respiratory Protection:	No special precautions are necessary for respiratory protection under normal handling conditions. Concentrations exceeding the exposure guideline above will require an approved dust respirator.
Skin Protection:	Wear overalls and gloves while mixing or spraying
Eye Protection:	Wear face shield/goggles while mixing or spraying

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light tan granule
Melting Point:	Not available
Bulk Density:	700g/L
pH:	6-9 (1% solution)
Vapour Pressure:	1.7 x 10 ⁻⁸ Pa @ 25°C
Corrosivity:	Not corrosive
Oxidisation:	Not an oxidiser

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Incompatibility:	None known.
Hazardous Decomposition Products:	Decomposition will not occur.
Hazardous Polymerization:	Will not occur.

11. TOXOLOGICAL INFORMATION

Potential Health Effects. This section includes the possible adverse health effects that could occur if the substance is not handled as recommended.

Acute Effects-

Eye:	Not classified as an eye irritant.
Skin:	Not a primary skin irritant or sensitizer.
Ingestion:	Not toxic by ingestion.
Inhalation:	Not toxic by inhalation.

Chronic Effects-

(Data for 100% thifensulfuron-methyl)
No oncogenic effects observed in 18 month mouse, 2 year rat or 1 year dog feeding studies. Lower body weights and weight gains observed for rats when fed 2,500ppm, the highest dietary concentration. NOELs were 500ppm and 25ppm

(cont)

for body weight and serum sodium effects respectively. No compound-related effects in mice fed for 18 months with diets containing thifensulfuron-methyl: NOEL was 7.500ppm (highest dose tested). Slightly lower body weights and higher liver weights observed for dogs fed for 1 year with diets containing 7,500ppm. No microscopic or functional changes were associated with these effects. NOEL was 750ppm. No effect on rat reproduction or lactation at any dose tested (highest dose 2,500mg/kg). No gross or compound-related effects on offspring at any dose tested. Not mutagenic in the Ames bacterial assay, the in-vitro Chinese Hamster Ovary Assay, the in-vitro unscheduled DNA synthesis, the in-vivo cytogenetic assay or in the mouse micronucleus assay. No teratogenic effects in rats at 800mg/kg/day (highest dose tested) nor in rabbits at 650mg/kg/day (highest dose tested).

Toxicity Data: Acute Oral LD₅₀ (rat) >5,000mg/kg
Acute Dermal LD₅₀ (rabbit) >2,000mg/kg
Inhalation LC₅₀ 4hr (rat) >7.9mg/L air

12. ECOLOGICAL INFORMATION

Based on information for the thifensulfuron-methyl active at 100%.
(note that this product is 75% active)

Ecotoxicity Data: Fish LD50 96hr (rainbow trout, bluegill) >100mg/L
Daphnia LC50 48hr 970ml/L
Algae EC50 0.0013mg/kg/L
EC50 seedling plants 0.000528mg/kg soil-herb-
icidal. Log Kow -1.7 DT50 6-12 days.
Broken down in soil by microbial degradation
and chemical hydrolysis. Kow log P 0.20 (pH5)
Birds LD50 (mallard, Japanese quail)>2,510mg/kg,
dietary LC50 8days >5,520mg/kg.
Worms LC50 >2,000mg/kg soil.

ERMA classifies this product as 9.1A and 9.2A

13. DISPOSAL CONSIDERATIONS

Disposal Method: Follow the label directions.
Triple rinse empty containers before disposal.
Do not burn empty containers that have not been rinsed. Burn in an appropriate incinerator if circumstances such as wind direction permit.
Otherwise crush or puncture and bury in a suitably approved landfill. Do not dispose of this product down drains or sewers. Follow all local, regional and national laws and regulations regarding hazardous waste disposal.

14. TRANSPORT INFORMATION

Dangerous Goods Classification:

Shipping Name: Environmentally hazardous substance, solid NOS
Class: 9
UN Number: None allocated
Packaging group: III

Transport limitations: Up to 3kg may be carried on a public passenger vehicle. No limitation on non-passenger vehicles. Must be transported in original sealed and labelled container.

15. REGULATORY INFORMATION

ACVM Registration No: P7668
ERMA Approval No: HSR07030
Approved Handler: Approved Handler certification is NOT required to purchase, handle or apply this product, unless applied in wide dispersive manner or by a commercial contractor.
Tracking: Not required.

16. OTHER INFORMATION

Glossary

AEL	Acceptable Exposure Limit
DT ₅₀	Time (days) for 50% loss
EC ₅₀	Median effective concentration
EEL	Environmental Exposure Limit
ERMA	Environmental Risk Management Authority

HSNO	Hazardous Substances & New Organisms Act
Koc	Organic carbon partition coefficient (ml soil water/g organic carbon)
LFL	Lower Flammability Limit
LC ₅₀	Lethal Concentration in air or water for 50% of test organisms
LD ₅₀	Lethal Dose for 50% of test organisms
NOEL	No Observable Effect Level
OSHA	Occupational Safety & Health Administration (USA)
OSH	Occupational Safety & Health service (NZ)
PEL	Permissible Exposure Level
Pow	Octanol water partition coefficient (ratio of concentration of a chemical in octanol and water at equilibrium and at a specified temp.)
pH	Measure of acidity/alkalinity of a substance on a 1-14 scale (1=strong acid, 14 = strongly alkali)
STEL	Short Term Exposure Limit
TEL	Tolerable Exposure Limit
TLV	Threshold Limit Value – an exposure limit set by a competent authority
TWA	Time Weighted Average – average concentration of a chemical in air over a total exposure time (usually 8 hours)
UFL	Upper Flammability Limit
WES	Workplace Exposure Standard – set by ERMA/OSH

The data in this Safety Data Sheet relates only to this product alone, and not to its use in combination with other substances or products. In such circumstances, assuming the combination is permitted (refer to product labels, and contact manufacturers if in doubt), be guided by the most hazardous of the substances involved, and observe the more stringent of all hazard controls applicable to the products used.

Further Information: Rainbow & Brown Limited
Toll-Free Phone (0508) 299 299
