

SCOTTS AUSTRALIA PTY. LTD

Material Safety Data Sheet

Emergency Telephone Number: 1800 033 111

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name Roundup ® PowerMAX
Product Use Roundup ® PowerMAX is a water soluble herbicide for non-selective control of many annual and perennial weeds.
Company Name Scotts Australia Pty. Ltd
Address 11 Columbia Way, Baulkham Hills, NSW, 2153, Australia
Telephone number 02 8853 7300
FAX 02 8853 7310
Product Type Herbicide/Weedkiller

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Liquid
Active ingredient Potassium salt of N-(phosphonomethyl)glycine; {Potassium salt of glyphosate}
Composition

COMPONENT	CAS No.	Concentration, g/L (approximate)
Glyphosate (present as Potassium salt)	1071-83-6	540
Water and other formulating ingredients	+	Balance

+ Trade secret composition. Contains Surfactant (10-20 %w/v)

3. HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): Blue solution/ Liquid / Slight

Classified as hazardous according to criteria of NOHSC

Causes moderate eye irritation

Poisons Schedule: S5 (NOT TO BE TAKEN)

Potential health effects

Likely routes of exposure

Skin contact, eye contact

Eye contact, short term

Moderate irritation effects can be observed

Skin contact, short term

Moderate irritation effects are possible for the concentrate. Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term

May be mildly irritating to mucous membranes if inhalation occurs

Refer to section 11 for toxicological and section 12 for environmental information.

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Australian Poisons Information Centre by phoning 13 11 26

Eye contact

Immediately flush with plenty of water for at least 15 minutes.

If easy to do, remove contact lenses.

Skin contact

Take off contaminated clothing, wristwatch, and jewellery.

Wash affected skin with plenty of water.

Wash clothes and clean shoes before re-use.

If irritation persists, seek medical advice.

Inhalation

Remove to fresh air.

Ingestion

Immediately offer water to drink. Never give anything by mouth to an unconscious person.

Do NOT induce vomiting unless directed by medical personnel.

If symptoms occur, get medical attention.

Advice to doctors

This product is not an inhibitor of cholinesterase.

Antidote

This product is not an inhibitor of cholinesterase. Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

Flash point

Does not flash

Extinguishing media

If involved in a fire, Roundup PowerMAX will not burn. Choose an extinguishing material to suit the burning material.

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

None

Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (PxOy), nitrogen oxides (NOx)

Fire fighting equipment

Self-contained breathing apparatus

Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

Minimise spread

Keep out of drains, sewers, ditches and water ways.

Methods for cleaning up

- Absorb in earth, sand or absorbent material.
- Dig up heavily contaminated soil.
- Collect in containers for disposal.
- Refer to section 7 for types of containers.
- Flush residues with small quantities of water.
- Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

- For personal protective equipment (PPE) guidelines and hygiene advice, refer to Section 8.
- When using, do not eat, drink or smoke.
- Wash hands thoroughly after handling or contact.
- Thoroughly clean equipment after use.
- Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.
- Emptied containers retain vapour and product residue.
- Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

Storage

- Minimum storage temperature: 0 °C
- Maximum storage temperature: 50 °C
- Keep product in the original packaging.
- Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.
- Keep out of reach of children.
- Keep away from food, drink and animal feed.
- Maximum shelf life: 5 years (using normal conditions of warehouse storage)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Potassium salt of Glyphosate	No specific occupational exposure limit has been established.
Water and minor formulating ingredients, including surfactant	No specific occupational exposure limit has been established.

Engineering controls

No special requirement or ventilation required when used as recommended.

Eye protection

Wear a face shield or chemical safety goggles to prevent eye contact where contact with undiluted product may occur. Have eye flushing material available.

Skin protection

Although this product does not present a significant skin concern, minimize skin contact by following good industrial hygiene practice. When handling undiluted product wear rubber gloves. Wash hands and contaminated skin thoroughly after handling.

Respiratory protection

Respiratory protection should not be required for normal use and handling.

Avoid breathing spray mist.

During periods of abnormal exposure to heavy spray mist, use of respiratory equipment approved for pesticide mist/spray is recommended. Consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour:	Blue coloured solution
Form:	Liquid
Odour:	Slight
Flash point:	Does not flash.
Specific gravity:	1.35
Solubility:	Water: Completely miscible.
pH (6.3% solution in water):	4.5 – 4.8
Partition coefficient (log Pow):	-3.2 @ 25 °C (Glyphosate)
Volatile Component	~40% (water is volatile material)

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage

Hazardous decomposition

Thermal decomposition that could occur if involved in a fire fueled by other flammable materials: Hazardous products of combustion: see section 5.

Materials to avoid/Reactivity

REACTS WITH GALVANISED STEEL OR UNLINED MILD STEEL TO PRODUCE HYDROGEN, A HIGHLY FLAMMABLE GAS THAT COULD EXPLODE IF IGNITED

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on a similar formulation and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD50 (limit test): > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

Acute dermal toxicity

Rat, LD50 : > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Days to heal: 14

Primary Irritation Index (PII): 2.2/8.0
Moderate irritation
FIFRA category III

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Days to heal: 3
Moderate irritation
FIFRA category III

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: >1.20 mg/L

Slightly toxic.
FIFRA category III.

No mortality. For purposes of the inhalation test, product was artificially aerosolized. Since this material will not become aerosolized to a hazardous concentration during transport, it is classified as non-hazardous under the transportation regulations in accordance with 2.6.2.2.4.7(b) and (c) of the UN Recommendations on the Transport of Dangerous Goods.

Skin sensitization

Guinea pig, Buehler test:

Positive incidence: 0 %

N-(phosphonomethyl)glycine; {glyphosate}

Mutagenicity

In vitro and in vivo mutagenicity test(s):

Not mutagenic.

Repeated dose toxicity

Rabbit, dermal, 21 days:

NOAEL toxicity: > 5,000 mg/kg body weight/day
Target organs/systems: none
Other effects: none

Rat, oral, 3 months:

NOAEL toxicity: > 20,000 mg/kg diet
Target organs/systems: none
Other effects: none

Chronic effects/carcinogenicity

Mouse, oral, 24 months:

NOAEL toxicity: ~ 5,000 mg/kg diet
Target organs/systems: liver
Other effects: decrease of body weight gain, histopathologic effects
NOEL tumour: > 30,000 mg/kg diet
Tumours: none

Rat, oral, 24 months:

NOAEL toxicity: ~ 8,000 mg/kg diet
Target organs/systems: eyes
Other effects: decrease of body weight gain, histopathologic effects
NOEL tumour: > 20,000 mg/kg diet
Tumours: none

Toxicity to reproduction/fertility

Rat, oral, 2 generations:

NOAEL toxicity: 10,000 mg/kg diet
NOAEL reproduction: > 30,000 mg/kg diet
Target organs/systems in parents: none
Other effects in parents: decrease of body weight gain
Target organs/systems in pups: none

Other effects in pups: decrease of body weight gain
Effects on offspring only observed with maternal toxicity.

Developmental toxicity/teratogenicity

Rat, oral, 6 - 19 days of gestation:

NOAEL toxicity: 1,000 mg/kg body weight
NOAEL development: 1,000 mg/kg body weight
Other effects in mother animal: decrease of body weight gain, decrease of survival
Developmental effects: weight loss, post-implantation loss, delayed ossification
Effects on offspring only observed with maternal toxicity.

Rabbit, oral, 6 - 27 days of gestation:

NOAEL toxicity: 175 mg/kg body weight
NOAEL development: 175 mg/kg body weight
Target organs/systems in mother animal: none
Other effects in mother animal: decrease of survival
Developmental effects: none

12. ECOLOGICAL INFORMATION

General Precautions:

Do not spray in high winds.
Glyphosate is a non-selective contact herbicide. Spray drift can cause damage to other plants

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on similar products and on components are summarized below.

Similar Formulation

Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, static, LC50: 3.13 mg/L
Moderately toxic

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, EbC50 (biomass): 0.124 mg/L
Highly toxic

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral, 48 hrs, LD50: >238.8 µg/bee
Practically non-toxic

Honey bee (*Apis mellifera*):

Contact, 48 hrs, LD50: >250 µg/bee
Practically non-toxic

Soil organism toxicity microorganisms

Nitrogen and carbon transformation test:

40 L/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.
Soil organism toxicity, microorganisms

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 10,000 mg/kg dry soil
Practically non-toxic.

Similar Formulation

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 8.0 mg/L
Moderately toxic

N-(phosphonomethyl)glycine: {glyphosate}

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight
Practically non-toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1
No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days
Koc: 884 - 60,000 L/kg
Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

Product

Keep out of drains, sewers, ditches and water ways.
On site disposal of concentrated product is not approved.
Ideally the product should be used for its intended use as a herbicide. If there is a need to dispose of product, use local collections of unwanted chemicals.

Container

See the individual container label for disposal information.
Emptied containers retain vapour and product residue.
Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.
Empty packaging completely.
Triple or pressure rinse empty containers if possible.
Do NOT contaminate water when disposing of rinse waters.
Ensure packaging cannot be reused.
Do NOT re-use containers.
Store for collection by approved waste disposal service.
Recycle if appropriate facilities/equipment available.
Follow all local/regional/national/international regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

U.N. Number	None allocated
Proper Shipping Label	None allocated
DG Class	None allocated
Hazchem Code	None allocated

Packaging	None allocated
Storage & Transport	Considered non-dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road or Rail

15. REGULATORY INFORMATION

Risk Phrase: R41 Risk of eye damage
 Toxic or harmful to aquatic organisms

Safety: S2 Keep out of reach of children.

Poisons Schedule: S5 (NOT TO BE TAKEN)

Hazard Category Xi Irritant

Packaging and Labelling: CAUTION
 KEEP OUT OF REACH OF CHILDREN
 READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Registered pesticide

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations. Please consult supplier if further information is needed.

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), NOHSC (National Occupational Health & Safety Commission), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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