



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 1 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**TRADE NAME:** ROUNDUP

**SUPPLIER:** EFEKTO

PO BOX 652147

BENMORE

2010

**TEL No.** 011 287 5700

**EMERGENCY TELEPHONE NUMBERS:**

**SPILLAGES:** 083 1233 911

**Fax:** 086 685 3129

**POISONINGS:**

**National Poison Centre** 021-9386084 (office hours).

021-9316129 (after hours).

082 446 8946

**Use:** A non-selective, systemic herbicide absorbed through the leaves.

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### 2. HAZARDS IDENTIFICATION

- Harmful
- Irritant.
- Toxic to aquatic organisms.

A low toxicity herbicide. Keep out of reach of children.

**Likely routes of exposure:** Skin and eye contact, ingestion and inhalation.

**Eye contact:**

May cause moderate eye irritation. Can damage the eyes

**Skin contact:**

Not expected to produce significant adverse effects when recommended use instructions are followed. Non-irritating to skin.

**Ingestion:**

Harmful when swallowed.

**Inhalation:**

Not expected to produce significant adverse effects when recommended use instructions are followed.

**Carcinogenicity/ Mutagenicity/ Neurotoxicity:**

See section 11.



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 2 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

**UN No.:** Not regulated.  
**Symbols:** Xi; N  
**Indication of danger:** Irritant; Dangerous for the environment  
**Risk-phrase(s):** R41; R51/53

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Active ingredients:**

Active ingredients.	CAS No.:	EC No.:
Glyphosate 360.0 g/l a.e. As N-(phosphonomethyl)glycine, IPA salt.	1071-83-6	213-997-4
Surfactant	Trade secret	
Inerts Balance	-	

**Chemical Name:** N- (phosphonomethyl)glycine (IUPAC)  
**Chemical Family:** Phosphanoglycine  
**Chemical Formula:** **Glyphosate IPA salt:**  $C_6H_{17}N_2O_5P$   
**Glyphosate:**  $C_3H_8NO_5P$   
**NIOSH/RTECS No.:** MC1075000

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### 4. FIRST-AID MEASURES

**Inhalation:**

Remove source of contamination or move victim to fresh air. Keep person warm and at rest. Treat symptomatically and supportively. Obtain medical advice if necessary.

**Skin contact:**

Remove contaminated clothing, shoes, wrist watch and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Seek medical advice if necessary.

**Eye contact:**

If easy, remove contact lenses.

Immediately flush the eyes with gently flowing lukewarm water or saline solution for at least 15 minutes, holding the eyelid(s) open. Seek medical attention if necessary.

**Ingestion:**

Have victim rinse mouth thoroughly with water. Offer water to drink. Do not induce vomiting. Remove by gastric lavage and catharsis. Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is unconscious. Seek medical advice immediately showing container and label.

**Advice to physician:**

There is **no specific antidote**. This product is not a cholinesterase inhibitor. Treat symptomatically and supportively as and when required.



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 3 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

### 5. FIRE-FIGHTING MEASURES

**Special hazard:** No fire hazard.

**Extinguishing agents:**

Extinguish **small fires** with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for **larger fires** or cooling of unaffected stock, but avoid the accumulation of polluted run-off from the site.

**Fire fighting:**

Remove container from fire area if possible. Contain fire control water for later disposal. Use a recommended extinguishing agent for the type of surrounding fire.

Keep material out of sewers and water sources. Avoid inhalation of hazardous vapours. Keep upwind.

**Personal protective equipment:**

Fire may produce irritating or poisonous vapours (toxic oxides of carbon, nitrogen and phosphorus), mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:**

Avoid contact with skin and eyes. Do not inhale fumes. For personal protection see Section 8.

**Environmental precautions:**

Do not allow entering drains or watercourses. When the product contaminates public waters, inform appropriate authorities in accordance with local regulations.

**Small spills:**

For small liquid spills, soak up with sand or other suitable noncombustible absorbent material, such as sawdust, and place into containers for subsequent disposal.

**Large spills:**

For large spills, contain liquid far ahead of spill. Contain spillage and contaminated water for subsequent disposal. Do not flush spilled material into drains. Keep spectators away.

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### 7. HANDLING AND STORAGE

**Handling:**

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

Avoid contact with eyes, prolonged contact with skin, and inhalation of spray and fumes. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storage:**



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 4 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

Store in its original labeled container in shaded, well-ventilated area, away from heat. Do not store in galvanized steel or unlined mild steel containers. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children and animals. Local regulations should be complied with. Shelf life is up to 2years.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure limits:**

None specified.

**Engineering control measures:**

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

**PERSONAL PROTECTIVE EQUIPMENT:**

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

**Respirator:**

An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

**Clothing:**

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with the substance.

**Gloves:**

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

**Eye protection:**

The use of full-face protection is recommended.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Liquid.

**Color:** Clear golden yellow to amber.

**Odour:** Mild halide odour.

**Oxidising properties:** None.

**pH:** 4.4 - 5,0 (1 % solution).

**Relative density:** 1.165g/cm<sup>3</sup> at 20 °C

**Partition-coefficient in n-octanol / water:**

(Data for 62 % technical concentrate) Pow: 0.0189 ± 0.0000629.

Data for Technical: Kow < -3,4

**Flash point:** Does not flash.

**Solubility in water:** Soluble

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### 10. STABILITY AND REACTIVITY



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 5 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

### Stability:

Stable under normal temperatures. Glyphosate reacts strongly (possibly violent exothermic reaction) with strong alkalis. Glyphosate is stable to light and also stable up to 60 °C. Glyphosate may be photolabile in natural waters, with calcium or other metal ions acting as catalysts for the process.

### Incompatibility:

Product is relatively stable in neutral, weakly acidic and weakly alkaline media, but reacts strongly (and possibly violently) with strong alkalis. Mixing with other products may reduce the activity of glyphosate.

### Hazardous decomposition products:

Toxic oxides of carbon, nitrogen and phosphorus are released when the product decomposes on heating.

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## 11. TOXICOLOGICAL INFORMATION

**Oral LD<sub>50</sub>:** > 5 000 mg/kg in rats.

**Acute dermal LD<sub>50</sub>:** > 5 000 mg/kg in rats.

**Acute inhalation LC<sub>50</sub> (4 h):** 2,6 mg/ℓ air for rats.

**Acute skin irritation:** The product is not irritating to skin (rabbit).

**Acute eye irritation:** Moderate irritation.

**Dermal sensitisation:** None

**Carcinogenicity:** Animal studies did not detect any carcinogenic effects.

**Teratogenicity:** Animal studies did not detect any teratogenic effects.

**Mutagenicity:** Animal studies did not detect any mutagenic effects.

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## 12. ECOLOGICAL INFORMATION

### ECOTOXICOLOGY:

#### Birds:

Low toxicity to birds.

Acute oral LD<sub>50</sub>: > 2 000 mg/kg (bobwhite quail).

#### Fish:

Moderately toxic.

LC<sub>50</sub> (96 hr): 8,2 mg/ℓ (rainbow trout)

#### Bees:

Non-toxic to bees.

Oral LD<sub>50</sub> (48 h): > 100 µg formulation/bee.

#### Daphnia:

Slightly toxic to *Daphnia magna*.

EC<sub>50</sub> (48 h): 12,9 mg/ℓ.

#### Green Algae (96h):

Moderately toxic to *Selenastrum capricornutum*.

LC<sub>50</sub>: 2,6 mg/ℓ.

#### Earthworms:

Not toxic to earthworms.



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 6 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

LC<sub>50</sub> (14 d): > 1000 mg/kg of soil.

**Degradability:**

Strongly adsorbed to soil and therefore becomes practically immobile. Microbial degradation is the major cause of loss from soil, with liberation of carbon dioxide. The principal metabolite is aminomethylphosphonic acid.

Degradation: 80% in 28 days.

**Mobility:**

Tightly bound to soil and is extremely resistant to leaching and elution.

**Accumulation:**

The product shows little or no tendency to bio-accumulate and poses no long-term threat to wildlife.

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### 13. DISPOSAL CONSIDERATIONS

**Pesticide disposal:**

Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable local procedures. Hydrolysis under alkaline conditions is a suitable method to dispose of small quantities of the product. After hydrolysis, dilute and dispose of in pits or landfill. Comply with any local legislation applying to waste disposal.

**Package product wastes:**

Emptied containers retain vapour and product residues. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must first be triple-rinsed with water, punctured and recycled or disposed of.

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### 14. TRANSPORT INFORMATION

**UN Number:** 3082

**ADR**

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Glyphosate 360 g/l)

Class: 9

Classification Code: M6

Packing Group: III

Label: 9

Hazard ID: 90

**IMDG Sea**

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Glyphosate 360 g/l)

Class: 9

Label: 9 Marine pollutant

Packing Group: III

**IATA**

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Glyphosate 360 g/l)

Class: 9

Packing Group: III

Label: 9



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 7 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

---

Pack Instr. Passenger: 914

Pack Instr. Cargo: 914

**Tremcard Nr. CEFIC:** 90GM6-III

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### 15. REGULATORY INFORMATION

**Hazard symbol:** Xi - Irritant

N - Dangerous for the environment

**Risk Phrases:**

**R41** Risk of serious damage to eyes.

**R51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Safety Phrases:**

**S2** Keep out of reach of children.

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

**S20/21** When using do not eat, drink or smoke.

**S24/25** Avoid contact with skin and eyes.

**S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

**S39** Wear eye/face protection.

**S61** Avoid release to the environment. Refer to special instructions/Safety data sheets

**National legislation:** In accordance with the South African National Road Traffic Act, 1996 (Act 93 of 1996), the Fire Brigade Act, 1987 (Act 99 of 1987) and the Occupational Health and Safety Act, 1993 (Act. No. 85 of 1993)

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### 16. OTHER INFORMATION

**Compiled by:** Danie Fourie

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

#### REFERENCES

- Similar product MSDS
- Mamba MSDS



# MATERIAL SAFETY DATA SHEET

## ROUNDUP

**Date Issued:** April 2011 and is valid for 3 years from this date.

Page 8 of 8

**Revision No.:** 1

**Print Date:** 3/10/14

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- ECB-ESIS (European chemical Information System).
  - ADR 2011, Part 3.
  - IMDG Code, 2005 Edition, Vol. 2.
  - IATA Dangerous goods regulations, Effective 1 January 2011

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**END OF MSDS.**