

<p style="text-align: center;">MONSANTO Europe S.A./N.V. Safety Data Sheet Commercial Product</p>
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1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Roundup® PowerMax

- 1.1.1. **Chemical name**
Not applicable for a mixture.
- 1.1.2. **Synonyms**
None.
- 1.1.3. **CLP Annex VI Index No.**
Not applicable.
- 1.1.4. **C&L ID No.**
Not available.
- 1.1.5. **EC No.**
Not applicable for a mixture.
- 1.1.6. **REACH Reg. No.**
Not applicable for a mixture.
- 1.1.7. **CAS No.**
Not applicable for a mixture.

1.2. Product use

Herbicide

1.3. Company/(Sales office)

MONSANTO Europe S.A./N.V.
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Antwerp, Belgium
Telephone: +32 (0)3 568 51 11
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E-mail:
safety.datasheet@monsanto.com

1.4. Emergency numbers

Telephone: Belgium +32 (0)3 568 51 23

2. HAZARDS IDENTIFICATION

2.1. Classification

- 2.1.1. **Classification according to Regulation (EC) No. 1272/2008 [CLP] - U.K.**
Not classified as dangerous.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

- 2.2.1. **Precautionary statement/statements U.K.**
P234 Keep only in original container
- 2.2.2. **Supplemental hazard information U.K.**
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

2.3. Other hazards

0% of the mixture consists of ingredient/ingredients of unknown acute toxicity.
0% of the mixture consists of ingredient/ingredients of unknown hazards to the aquatic environment.

2.3.1. Potential environmental effects

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

Not a persistent, bioaccumulative or toxic (PBT) nor a very persistent, very bioaccumulative (vPvB) mixture.

2.4. Appearance and odour (colour/form/odour):
ivory cream /Granules / Chemical

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Ammonium salt of N-(phosphonomethyl)glycine; {Ammonium salt of glyphosate}

Composition

Components	CAS No.	EC No.	EU Index No. / REACH Reg. No. / C&L ID No.	% by weight (approximate)	Classification
Ammonium salt of glyphosate	40465-66-5		- / - / -	79	Aquatic Chronic - Category 2; H411
Surfactant			- / - / -	12	Skin corrosion/irritation - Category 2, Eye damage/irritation - Category 2, Aquatic Acute - Category 1, Aquatic Chronic - Category 1; H315, 319, 400, 410; { d }
Minor formulating ingredients			- / - / -	8,5	
Sodium sulphite	7757-83-7		- / - / -	0,5	

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

Full text of classification code: See section 16.

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

4.1. Description of first aid measures

4.1.1. Eye contact

Immediately flush with plenty of water. If easy to do, remove contact lenses.

4.1.2. Skin contact

Take off contaminated clothing, wristwatch, jewellery. Wash affected skin with plenty of water. Wash clothes and clean shoes before re-use.

4.1.3. Inhalation

Remove to fresh air.

4.1.4. Ingestion

Immediately offer water to drink. Do NOT induce vomiting unless directed by medical personnel. If symptoms occur, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

4.2.1. Potential health effects

Likely routes of exposure: Skin contact, eye contact, inhalation, ingestion

Eye contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

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

4.2.2. Medical conditions aggravated by exposure

Hypersensitivity to sulphiting agents.

Note: A very small percentage of particularly sensitive people may suffer skin or respiratory reactions.

4.3. Indication of any immediate medical attention and special treatment needed

4.3.1. Advice to doctors

This product is not an inhibitor of cholinesterase.

4.3.2. Antidote

Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

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

5.2. Special hazards

5.2.1. Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.

Environmental precautions: see section 6.

5.2.2. Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P_xO_y), nitrogen oxides (NO_x), sulphur oxides (SO_x)

5.3. Fire fighting equipment

Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

6.1. Environmental precautions

Keep out of drains, sewers, ditches and water ways. Do NOT contaminate water when disposing of rinse waters.

6.2. Methods for cleaning up

SMALL QUANTITIES: Flush spill area with water. LARGE QUANTITIES: 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.

7.1. Precautions for safe handling

Avoid contact with eyes.

When using do not eat, drink or smoke.

Wash hands thoroughly after handling or contact.

Wash contaminated clothing before re-use.

Thoroughly clean equipment after use.

Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.

Refer to section 13 of the safety data sheet for disposal of rinse water.

Emptied containers retain vapour and product residue.
FOLLOW LABELLED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.

7.2. Conditions for safe storage

Compatible materials for storage: stainless steel, aluminium, fibreglass, plastic, glass lining
Keep out of reach of children.
Keep away from food, drink and animal feed.
Keep only in the original container.
Keep container dry.
Keep container off wet floors.
Minimum shelf life: 2 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

Components	Exposure Guidelines
Ammonium salt of glyphosate	No specific occupational exposure limit has been established.
Surfactant	No specific occupational exposure limit has been established.
Minor formulating ingredients	No specific occupational exposure limit has been established.
Sodium sulphite	No specific occupational exposure limit has been established.

8.2. Engineering controls

Have eye wash facilities immediately available at locations where eye contact can occur.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection:

If there is significant potential for contact: Wear dust goggles.

8.3.2. Skin protection:

If repeated or prolonged contact:
Wear chemical resistant gloves.

8.3.3. Respiratory protection:

No special requirement when used as recommended.

When 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/colour range:	ivory cream
Odour:	Chemical
Form:	Granules
Physical form changes (melting, boiling, etc.):	
Melting point:	No data.
Flash point:	Not applicable.
Explosive properties:	No explosive properties
Auto ignition temperature:	Does not self-ignite.
Self-accelerating decomposition temperature (SADT):	No data.

Oxidizing properties:	none
Specific gravity:	Not applicable.
Vapour pressure:	No significant volatility.
Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Dynamic viscosity:	Not applicable.
Kinematic viscosity:	Not applicable.
Density:	0,55 g/cm ³ ; (loose bulk density)
Solubility:	Water: Soluble
pH:	3,8 @ 20 °C @ 10 g/l
Partition coefficient:	log Pow: -3,02 @ 25 °C (glyphosate)

10. STABILITY AND REACTIVITY

10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.2. Stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

10.4. Incompatible materials

Incompatible materials for storage: galvanised steel, unlined mild steel
Compatible materials for storage: see section 7.2.

10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

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

Likely routes of exposure: Skin contact, eye contact, inhalation, ingestion

Data obtained on product and components are summarized below.

Acute oral toxicity

Rat, LD50 (Method: Up-and-down procedure (OECD 425)): > 5.000 mg/kg body weight

No mortality. Practically non-toxic.

Acute dermal toxicity

Rat, LD50: > 5.000 mg/kg body weight

No mortality. Practically non-toxic.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol:

No 4-hr LC50 at the maximum tested concentration. 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. This product is not aerosolized during handling or use and is therefore not classified as hazardous under the CLP Regulation (EC 1272/2008). Practically non-toxic.

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Redness, individual EU scores: 1,00; 1,00; 1,00

Swelling, individual EU scores: 0,33; 0,33; 0,33

Days to heal: 3

Slightly irritating to skin but not sufficient for classification.

Slight irritation.

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Conjunctival redness, individual EU scores: 1,33; 0,67; 1,33
Conjunctival swelling, individual EU scores: 0,33; 0,33; 0,67
Corneal opacity, individual EU scores: 0,00; 0,00; 0,00
Iris lesions, individual EU scores: 0,00; 0,00; 0,00
Days to heal: 3
Slightly irritating to eyes but not sufficient for classification.
Slight irritation.

Skin sensitization

Guinea pig, 9-induction Buehler test:

Positive incidence: 0 %
Negative.

N-(phosphonomethyl)glycine: { glyphosate acid}

Genotoxicity

Not genotoxic.

Carcinogenicity

Not carcinogenic in rats or mice.

Reproductive/Developmental Toxicity

Developmental effects in rats and rabbits only in the presence of significant maternal toxicity.
Reproductive effects in rats only in the presence of significant maternal toxicity.

Sodium sulphite

EXPERIENCE WITH HUMAN EXPOSURE

Eye contact, excessive, occupational:

Eye effects: irritation

Skin contact, excessive, occupational:

Skin effects: irritation, sensitization in susceptible individuals

Inhalation, excessive, occupational:

Respiratory effects: Respiratory sensitization, irritation, asthma

Ingestion, short term, case report(s):

Gastro-intestinal effects: irritation

Ingestion, excessive, case report(s):

Gastro-intestinal effects: diarrhoea, abdominal pain

Cardiovascular effects: decreased blood pressure (hypotension)

12. ECOLOGICAL INFORMATION

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

Data obtained on product and components are summarized below.

Aquatic toxicity, fish

Zebra fish (*Brachydanio rerio*):

Acute toxicity, 96 hours, static, EC50: 102 mg/L

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity (limit test), 48 hours, static, EC50: > 100 mg/L

Aquatic toxicity, algae/aquatic plants

Green algae (*Pseudokirchneriella subcapitata*):

Acute toxicity, 72 hours, ErC50 (growth rate): 51 mg/L

Green algae (*Pseudokirchneriella subcapitata*):

Acute toxicity, 72 hours, NOEC: 10 mg/L

Avian toxicity

Japanese quail (*Coturnix coturnix japonica*):

Acute oral toxicity (limit test), single dose, LD50: > 2.000 mg/kg body weight

Arthropod toxicity

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 100 µg/bee

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 104,8 µg/bee

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity (limit test), 14 days, LC50: > 1.000 mg/kg dry soil

Soil organism toxicity, microorganisms

Nitrogen and carbon transformation test:

3,5 kg/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

N-(phosphonomethyl)glycine: { glyphosate acid }

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3.851 mg/kg body weight

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

13.1. Waste treatment methods

13.1.1. Product

Keep out of drains, sewers, ditches and water ways. Follow all local/regional/national/international regulations on waste disposal. Follow current edition of the General Waste, Landfill, and Burning of Hazardous Waste Directives; and the Shipment of Waste Regulation. According to the manufacturer self-classification, following Regulation (EC) No. 1272/2008 [CLP], the product can be disposed as a non-hazardous industrial waste. Disposal in a waste incinerator with energy recovery is recommended.

13.1.2. Container

Follow all local/regional/national/international regulations on waste disposal, packaging waste collection/disposal. Follow current edition of the General Waste, Landfill, and Burning of Hazardous Waste Directives; and the Shipment of Waste Regulation. Do not re-use bags. Empty and shake the bag; inspect for emptiness/cleanliness. Empty inspected bags can be disposed of as non hazardous industrial waste. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. Recycle the non-hazardous bag only when a proper control on the end use of the recycled plastic is possible. Suitable for industrial grade recycling only. Do NOT recycle plastic that could end in any human or food contact application. The empty plastic bag meets the requirements for energy recovery. Disposal in a incinerator with energy recovery is recommended.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

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.

Not regulated for transport under ADR/RID, IMO, or IATA/ICAO Regulations

15. REGULATORY INFORMATION

15.1. Other Regulatory Information

SP1 Do not contaminate water with the product or its container.

15.2. Chemical Safety Assessment

A Chemical Safety Assessment per Regulation (EC) No. 1907/2006 is not required and has not been performed.

A Risk Assessment has been performed under Regulation EC 1107/2009.

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.

This Safety Data Sheet has been prepared following the Regulation (EC) No. 1907/2006 (Annex II) as last amended by Regulation (EC) No. 2015/830

In this document the British spelling was applied.

Data provided in this Safety Data Sheet are for the product as supplied unless otherwise indicated.

Classification of components

Components	Classification
Ammonium salt of glyphosate	Aquatic Chronic - Category 2 H411 Toxic to aquatic life with long lasting effects.
Surfactant	Skin corrosion/irritation - Category 2 Eye damage/irritation - Category 2 Aquatic Acute - Category 1 Aquatic Chronic - Category 1 H315 Causes skin irritation. H319 Causes serious eye irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Minor formulating ingredients	
Sodium sulphite	

Endnotes:

- { a} EU label (manufacturer self-classification)
- { b} EU label (Annex I)
- { c} EU CLP classification (Annex VI)
- { d} EU CLP (manufacturer self-classification)

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), 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), STOT SE (Specific Target Organ Toxicity, Single Exposure), STOT RE (Specific Target Organ Toxicity, Repeated Exposure), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

Safety Data Sheet (SDS) Annex

Chemical Safety Report:

Read and follow label instructions.

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End of document
