

MONSANTO Europe S.A./N.V.

Safety Data Sheet

Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Roundup® Ultimate

- 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)

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Antwerp, Belgium
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1.4. Emergency numbers

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

2. HAZARDS IDENTIFICATION

2.1. Classification

2.1.1. National classification - U.K.

- Aquatic Acute - Category 1 (M=1)
Aquatic Chronic - Category 1 (M=1)
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

2.2.1. Hazard pictogram/pictograms U.K.



2.2.2. Signal word U.K.

- Warning
- 2.2.3. Hazard statement/statements U.K.**
H410 Very toxic to aquatic life with long lasting effects.
- 2.2.4. Precautionary statement/statements U.K.**
P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.
- 2.2.5. 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**
Very toxic to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.
Not a persistent, bioaccumulative or toxic (PBT) nor a very persistent, very bioaccumulative (vPvB) mixture.
- 2.4. Appearance and odour (colour/form/odour):**
Yellow-Orange /Liquid / Slight, amines

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

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

Composition

Components	CAS No.	EC No.	EU Index No. / REACH Reg. No. / C&L ID No.	% by weight (approximate)	Classification
Potassium salt of glyphosate	70901-12-1	933-437-9	015-184-00-8 / - / 02-2119694167-27-0000	49	Aquatic Chronic - Category 2; H411; { c }
Tallow alkylamine ethoxylate	61791-26-2	500-153-8	- / - / -	5 - 6	Acute toxicity - Category 4, Eye damage/irritation - Category 1, Aquatic Acute - Category 1 (M=1); H302, 318, 400
Bis (2-hydroxyethyl) cocoalkylamine	61791-31-9	263-163-9	- / 01-2119957489-17 / -	4 - 5	Acute toxicity - Category 4, Skin corrosion/irritation - Category 1C, Aquatic Acute - Category 1 (M=10), Aquatic Chronic - Category 1 (M=10); H302, 314, 400, 410
Water and minor formulating ingredients			- / - / -	41	Not classified as dangerous.;

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. Continue for at least 15 minutes. If easy to do, remove contact lenses. If there are persistent symptoms, obtain medical advice.
- 4.1.2. Skin contact**
Immediately wash affected skin with plenty of water. Use soap if available. Take off contaminated clothing, wristwatch, jewellery. Wash clothes and clean shoes before re-use. If there are persistent symptoms, obtain medical advice.
- 4.1.3. Inhalation**
Remove to fresh air.
- 4.1.4. 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.
- 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
Eye contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.
Skin contact, short term: Irritating to skin.
May cause allergic skin reaction.
Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.
- 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)
- 5.3. Fire fighting equipment**
Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.
- 5.4. Flash point**
Does not flash.

6. ACCIDENTAL RELEASE MEASURES

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

- 6.1. Personal precautions**
Keep all non-essential people away from affected area. Warn everybody of irritant/corrosive hazard.
Use personal protection recommended in section 8.
- 6.2. Environmental precautions**
Minimise spread. Keep out of drains, sewers, ditches and water ways. Notify authorities.
- 6.3. 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. Minimise use of water to prevent environmental contamination. Do NOT flush away with water.

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 skin and 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

Minimum storage temperature: -15 °C
Maximum storage temperature: 50 °C
Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining
Keep out of reach of children.
Keep away from food, drink and animal feed.
Keep container tightly closed in a cool, well-ventilated place.
Keep only in the original container.
Partial crystallization may occur on prolonged storage below the minimum storage temperature.
If frozen, place in warm room and shake frequently to put back into solution.
Minimum shelf life: 5 years.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

Components	Exposure Guidelines
Potassium salt of glyphosate	No specific occupational exposure limit has been established.
Tallow alkylamine ethoxylate	No specific occupational exposure limit has been established.
Bis (2-hydroxyethyl) cocoalkylamine	No specific occupational exposure limit has been established.
Water and minor formulating ingredients	No specific occupational exposure limit has been established.

8.2. Engineering controls

No special requirement when used as recommended.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection:

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

8.3.2. Skin protection:

Wear chemical resistant gloves.
Wear chemical resistant clothing/footwear.

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:	Yellow - Orange
Odour:	Slight, amines
Form:	Liquid
Physical form changes (melting, boiling, etc.):	
Melting point:	Not applicable.
Boiling point:	No data.
Flash point:	Does not flash.
Explosive properties:	No explosive properties
Auto ignition temperature:	520 °C
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	No data.
Specific gravity:	1,353 @ 20 °C / 4 °C
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	72,1 mPa·s @ 20 °C
Kinematic viscosity:	53,29 mm ² /s @ 20 °C
Density:	1,353 g/cm ³ @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4,9 @ 10 g/l
Partition coefficient:	log Pow: < -3,2 @ 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

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

Skin sensitization

Guinea pig, 9-induction Buehler test:

Positive incidence: 0 %
Negative.

Similar formulation

Acute oral toxicity

Rat, LD50: > 5.000 mg/kg body weight
Practically non-toxic.

Acute dermal toxicity

Rat, LD50: > 5.000 mg/kg body weight
Practically non-toxic.

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Redness, individual EU scores: 2,00; 1,67; 2,00
Swelling, individual EU scores: 0,00; 0,33; 0,33
Days to heal: 14
Moderate irritation.

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Conjunctival redness, individual EU scores: 1,00; 1,33; 1,33
Conjunctival swelling, individual EU scores: 1,00; 1,33; 1,00
Corneal opacity, individual EU scores: 0,00; 1,00; 0,00
Iris lesions, individual EU scores: 0,00; 0,33; 0,00
Days to heal: 10
Slightly irritating to eyes but not sufficient for classification.
Moderate irritation.

Acute inhalation toxicity

This product is not aerosolized during handling or use and is therefore not classified as hazardous under the CLP Regulation (EC 1272/2008).

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.

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

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, semi-static, LC50: 3,13 mg/L

Aquatic toxicity, invertebrates

A toxicity study on a *Daphnia* species has not been performed with this product. In general, *Daphnia* are shown to have similar sensitivity to glyphosate products as fish.

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, ErC50 (growth rate): 0,294 mg/L

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, NOEC: 0,047 mg/L

Arthropod toxicity

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 250 µg/bee

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 238,8 µg/bee

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 10.000 mg/kg dry soil

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.

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. Disposal as hazardous waste can only be done in an authority-approved hazardous waste incinerator. Disposal in an industrial 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 containers. Triple or pressure rinse empty containers. Properly rinsed container can be disposed as a non hazardous industrial waste. Pour rinse water into spray tank. Dispose of container as an hazardous waste if NOT properly rinsed. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. Recycle the non-hazardous container 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. This package meets the requirements for energy recovery. Disposal in a incinerator with energy recovery is recommended. Disposal as hazardous waste can only be done in an authority-approved hazardous waste incinerator.

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.

Note

This UN 3082 product when carried in a single or combination packaging containing a net quantity per single or inner packaging of 5 l or less, is not subject to any other provision of ADR/RID or IMDG as the packaging provided meet the general provisions of 4.1.1.1, 4.1.1.2, and 4.1.1.4 to 4.1.1.8

ADR/RID

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (cocofattyamine ethoxylate)
UN No.: UN3082
Class: 9
Kemler: 90
Packing Group: III

IMO

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (cocofattyamine ethoxylate)
UN No.: UN3082
Class: 9
Packing Group: III

Note

MARINE POLLUTANT

IATA/ICAO

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (cocofattyamine ethoxylate)
UN No.: UN3082
Class: 9
Packing Group: III

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.

|| Significant changes versus previous edition.

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

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

Classification of components

Components	Classification
Potassium salt of glyphosate	Aquatic Chronic - Category 2 H411 Toxic to aquatic life with long lasting effects.
Tallow alkylamine ethoxylate	Acute toxicity - Category 4 Eye damage/irritation - Category 1 Aquatic Acute - Category 1 (M=1) H302 Harmful if swallowed. H318 Causes serious eye damage. H400 Very toxic to aquatic life.
Bis (2-hydroxyethyl) cocoalkylamine	Acute toxicity - Category 4 Skin corrosion/irritation - Category 1C Aquatic Acute - Category 1 (M=10) Aquatic Chronic - Category 1 (M=10)

	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Water and minor formulating ingredients	Not classified as dangerous.

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
