MONSANTO Europe S.A./N.V.

Safety Data Sheet
Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

Roundup Vista Plus MAPP 18002

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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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.

Eye damage/irritation - Category 2
H319 Causes serious eye irritation.

2.2. Label elements: U.K.

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictogram/pictograms: U.K.

Signal word: U.K.

Warning

Hazard statement/statements: U.K.

H319	Causes serious eye irritation.

Precautionary statement/statements: U.K.

P264	Wash hands thoroughly after handling.
P280	Wear eye protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313	If eye irritation persists: Get medical advice/attention.

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.

2.4. Appearance and odour (colour/form/odour)

Yellow-Amber /Liquid / Slight, amines

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance: Not applicable.

3.2 Mixture: Yes.

Composition/information on ingredients

Components	CAS No.	EC No.	EU Index No. / REACH Reg. No. / C&L ID No.	Concentration	Classification
Potassium salt of glyphosate	70901-12-1	933-437-9	015-184-00-8 / - / 02-2119694167-27-0000	42,0 %	Aquatic Chronic - Category 2; H411; {c}
Etheralkylamine ethoxylate	68478-96-6		- / - / -	7 %	Acute toxicity - Category 4, Eye damage/irritation - Category 1, Aquatic Chronic - Category 2; H302, 318, 411; {d}
Water and minor formulating ingredients			- / - / -	51,0 %	Not classified as dangerous.;

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

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. If there are persistent symptoms, obtain medical advice.

4.1.2. Skin contact
Wash affected skin with plenty of water. 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. 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: Causes serious eye irritation.
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.

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 (PxOy), nitrogen oxides (NOx)

5.3. Advice for firefighters

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

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. Refer to section 7 for types of containers. Collect in containers for disposal. 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

7.1. Precautions for safe handling

Good industrial practice in housekeeping and personal hygiene should be followed. 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, including any incompatibilities

Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining
Incompatible materials for storage: galvanised steel, unlined mild steel
Minimum storage temperature: -15 °C
Maximum storage temperature: 50 °C
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. Minimum shelf life: 2 years.

7.3. Specific end use(s)

Pesticide: Read and follow label instructions

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Airborne exposure limits

Components	Exposure Guidelines
Potassium salt of glyphosate	No specific occupational exposure limit has been established.
Etheralkylamine ethoxylate	No specific occupational exposure limit has been established.
Water and minor formulating ingredients	No specific occupational exposure limit has been established.

8.2. Exposure controls

Engineering controls

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

Eye protection:

If there is potential for contact: Wear chemical goggles.

Skin protection:

If repeated or prolonged contact: Wear chemical resistant gloves. Chemical resistant gloves include those made of waterproof materials such as nitrile, butyl, neoprene, polyvinyl chloride (PVC), natural rubber and/or barrier laminate.

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.

9.1 Information on basic physical and chemical properties

Colour/colour range:	Yellow - Amber
Form:	Liquid
Odour:	Slight, amines
Odour threshold:	No data.
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:	448 °C
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	No data.
Specific gravity:	1,308 @ 20 °C / 4 °C
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	Not applicable.
Dynamic viscosity:	18,1 mPa·s @ 20 °C
Kinematic viscosity:	13,81 cSt @ 20 °C
Density:	1,308 g/cm3 @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4,8 @ 10 g/l
Partition coefficient:	log Pow: < -3,2 @ 25 °C (Glyphosate)

9.2 Other information

Evaporation rate:	No data.

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. Chemical 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. Conditions to avoid

None

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

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

11.1. Information on toxicological effects

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

Acute oral toxicity: Based on available data classification criteria are not met.
Acute dermal toxicity: Based on available data classification criteria are not met.
Acute inhalation toxicity: Based on available data classification criteria are not met.
Skin corrosion/irritation: Based on available data classification criteria are not met.
Eye corrosion/irritation: Category 2
Skin sensitization: Based on available data classification criteria are not met.
Respiratory sensitization: Based on available data classification criteria are not met.
Mutagenicity: Based on available data classification criteria are not met.
Carcinogenicity: Based on available data classification criteria are not met.
Reproductive/Developmental Toxicity: Based on available data classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure: Based on available data classification criteria are not met.
Specific Target Organ Toxicity - Repeated Exposure: Based on available data classification criteria are not met.
Aspiration hazard: Based on available data classification criteria are not met.

Most important symptoms and effects, both acute and delayed

Potential health effects
Likely routes of exposure: Skin contact, eye contact, inhalation
Eye contact, short term: Causes serious eye irritation.
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.

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

Acute inhalation toxicity
Rat, LC50, 4 hours, aerosol: > 5,05 mg/L
Practically non-toxic.

More concentrated formulation

Acute oral toxicity
Rat, LD50 (limit test): > 5.000 mg/kg body weight
Target organs/systems: none
No mortality. Practically non-toxic.

Acute dermal toxicity
Rat, LD50 (limit test): > 5.000 mg/kg body weight
Target organs/systems: none
No mortality. Practically non-toxic.

Skin irritation
Rabbit, 6 animals, OECD 404 test:
Redness, mean EU score: 0,5
Swelling, mean EU score: 0,0
Days to heal: 3
Slight irritation.

Eye irritation
Rabbit, 6 animals, OECD 405 test:
Conjunctival redness, mean EU score: 1,83
Conjunctival swelling, mean EU score: 1,44
Corneal opacity, mean EU score: 1,33
Iris lesions, mean EU score: 0,89
Days to heal: 14

Similar formulation

Skin sensitization
Guinea pig, 9-induction Buehler test:
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.

12. ECOLOGICAL INFORMATION

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

12.1 Toxicity

Aquatic toxicity, algae/aquatic plants

Myriophyllum spicatum:
Prolonged exposure toxicity, 14 days, static, ErC50 (growth rate): 12,3 mg/L

Myriophyllum spicatum:
Prolonged exposure toxicity, 14 days, static, NOEC (growth rate): 2,08 mg/L

Duckweed (Lemna gibba):
Acute toxicity, 7 days, static, ErC50 (growth rate): 11 mg/L

Duckweed (Lemna gibba):
Acute toxicity, 7 days, static, EC10: 1,2 mg/L

12.2 Persistence and degradability

No data.

12.3 Bioaccumulative potential

Refer to section 9 for partition coefficient data.

12.4 Mobility in soil

No data.

12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

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

12.7 Additional information

If available, data obtained on similar products and/or on components are summarized below.

More concentrated formulation

Aquatic toxicity, fish

Bluegill sunfish (Lepomis macrochirus):
Acute toxicity, 96 hours, static, LC50: 21 mg/L

Common carp (Cyprinus carpio):
Acute toxicity, 96 hours, static, LC50: 12 mg/L

Aquatic toxicity, invertebrates

Water flea (Daphnia magna):
Acute toxicity, 48 hours, static, EC50: 56 mg/L

Similar formulation

Aquatic toxicity, algae/aquatic plants

Green algae (Selenastrum capricornutum):
Acute toxicity, 72 hours, static, ErC50 (growth rate): 14 mg/L

Green algae (Selenastrum capricornutum):
Acute toxicity, 72 hours, static, NOEC: 2,0 mg/L

Arthropod toxicity

Honey bee (Apis mellifera):
Contact, 48 hours, LD50: > 265 µg/bee

Honey bee (Apis mellifera):
Oral, 48 hours, LD50: > 285 µg/bee

Soil organism toxicity, invertebrates

Earthworm (Eisenia foetida):

Acute toxicity, 14 days, LC50: > 2.700 mg/kg dry soil

Soil organism toxicity, microorganisms

Nitrogen and carbon transformation test:

48 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. 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. Pour rinse water into spray tank. Properly rinsed container can be disposed as a non hazardous industrial waste. 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.

ADR/RID

14.1 **UN No.:** Not applicable.

14.2 **Proper Shipping Name (Technical Name if required): Not regulated for transport under ADR/RID Regulations.**
14.3 **Transport hazard class: Not applicable.**
14.4 **Packing Group:** Not applicable.
14.5 **Environmental hazards: Not applicable.**
14.6 **Special precautions for the user:** Not applicable.

IMO
14.1 **UN No.:** Not applicable.
14.2 **Proper Shipping Name (Technical Name if required): Not regulated for transport under IMO Regulations**
14.3 **Transport hazard class: Not applicable.**
14.4 **Packing Group:** Not applicable.
14.5 **Environmental hazards: Not applicable.**
14.6 **Special precautions for the user:** Not applicable.
14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable.

IATA/ICAO
14.1 **UN No.:** Not applicable.
14.2 **Proper Shipping Name (Technical Name if required): Not regulated for transport under IATA/ICAO Regulations**
14.3 **Transport hazard class: Not applicable.**
14.4 **Packing Group:** Not applicable.
14.5 **Environmental hazards: Not applicable.**
14.6 **Special precautions for the user:** Not applicable.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance/mixture
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.
In this document the British spelling was applied.
|| 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

Classification of components

Components	Classification
Potassium salt of glyphosate	Aquatic Chronic - Category 2 H411 Toxic to aquatic life with long lasting effects.
Etheralkylamine ethoxylate	Acute toxicity - Category 4 Eye damage/irritation - Category 1 Aquatic Chronic - Category 2 H302 Harmful if swallowed. H318 Causes serious eye damage.

	H411 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)

Safety Data Sheet (SDS) Annex

Chemical Safety Report:
Read and follow label instructions.