

<p style="text-align: center;">MONSANTO Europe S.A. Safety Data Sheet Commercial Product</p>

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Roundup® Gel

CLP Annex VI Index No.

Not applicable.

C&L ID No.

Not available.

EC No.

Not applicable.

REACH Reg. No.

Not applicable.

CAS No.

Not applicable.

Product use

Herbicide

Chemical name

Not applicable.

Synonyms

None.

Company/(Sales office)

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2. HAZARDS IDENTIFICATION

This mixture has not yet been classified according to Regulation (EC) No. 1272/2008

EU label (manufacturer self-classification) - Classification/Labelling following the EU Dangerous Preparations' Directive 1999/45/EC.

Not classified as dangerous.

S2	Keep out of reach of children.
S13	Keep away from food, drink and animal feedingstuffs.
S37	Wear suitable gloves.
S49	Keep only in the original container.

National classification/labelling - U.K.

Not classified as dangerous.

S29	Do NOT empty into drains.
SP1	Do not contaminate water with the product or its container.

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

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.

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.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

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

Composition

Components	CAS No.	EC No.	EU Index No. / REACH Reg. No. / C&L ID No.	% by weight (approximate)	Classification
Isopropylamine salt of glyphosate	38641-94-0	933-426-9	015-184-00-8 / - / 02-2119693876-15- 0000	1	Aquatic Chronic - Category 2; H411; { c} N; R51/53; { b}
Minor formulating ingredients			- / - / -	4	
Water	7732-18-5	231-791-2	- / - / -	95	

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.

Eye contact

Immediately flush with plenty of water.

If easy to do, remove contact lenses.

Skin contact

Take off contaminated clothing, wristwatch, jewellery.

Wash affected skin with plenty of water.

Wash clothes and clean shoes before re-use.

Inhalation

Remove to fresh air.

Ingestion

Rinse mouth thoroughly with water.

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

Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

Flash point

Does not flash.

Extinguishing media

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

Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.

Environmental precautions: see section 6.

Hazardous products of combustion

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

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.

Contain spillage with sand bags or other means.

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.

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

7. HANDLING AND STORAGE

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

Handling

Do NOT taste or swallow.

Avoid contact with eyes, skin and clothing.

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.

Storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining
 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.
 Keep only in the original container.
 Partial crystallization may occur on prolonged storage below the minimum storage temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

Components	Exposure Guidelines
Isopropylamine salt of glyphosate	No specific occupational exposure limit has been established.
Minor formulating ingredients	No specific occupational exposure limit has been established.
Water	No specific occupational exposure limit has been established.

Engineering controls

No special requirement when used as recommended.

Eye protection

No special requirement when used as recommended.

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.

Colour/colour range:	Colourless - Hazy
Odour:	Odourless
Form:	Gel
Physical form changes (melting, boiling, etc.):	
Freezing point:	No data.
Boiling point:	No data.
Flash point:	Does not flash.
Explosive properties:	No explosive properties
Auto ignition temperature:	No data.
Specific gravity:	1.017
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	No data.
Kinematic viscosity:	No data.
Density:	1.017 g/cm ³ @ 20 °C
Solubility:	Water: Completely miscible.

pH:	7
Partition coefficient:	log Pow: -3.2 @ 25 °C (glyphosate)

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Oxidizing properties

none

Materials to avoid/Reactivity

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

Hazardous decomposition

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

Self-accelerating decomposition temperature (SADT)

No data.

11. TOXICOLOGICAL INFORMATION

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

Data obtained on product and components are summarized below.

Acute oral toxicity

Rat, female, LD50 (Method: Up-and-down procedure (OECD 425)): > 2,000 mg/kg body weight
No mortality.

Acute dermal toxicity

Rat, LD50: > 2,000 mg/kg body weight
No mortality.

Skin irritation

Rabbit, 3 animals, OECD 404 test:
Redness, individual EU scores: 0.0; 0.3; 0.7
Swelling, individual EU scores: 0.0; 0.0; 0.0
Days to heal: 3

Eye irritation

Rabbit, 3 animals, OECD 405 test:
Conjunctival redness, individual EU scores: 0.0; 0.0; 0.0
Conjunctival swelling, individual EU scores: 0.3; 0.3; 0.3
Corneal opacity, individual EU scores: 0.0; 0.0; 0.0
Iris lesions, individual EU scores: 0.0; 0.0; 0.0
Days to heal: 2

Skin sensitization

Guinea pig, 9-induction 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

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 (limit test), 96 hours, static, LC50: > 975 mg/L

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 323 mg/L

Aquatic toxicity, algae/aquatic plants

Green algae (*Pseudokirchneriella subcapitata*):

Acute toxicity, 72 hours, static, ErC50 (growth rate): > 1,020 mg/L

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral/contact, 48 hours, LD50: > 192 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:

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

N-(phosphonomethyl)glycine { glyphosate}

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet

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

Product

Recycle if appropriate facilities/equipment available.

Send to special chemical waste disposal facility.

Dispose of as hazardous industrial waste.

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

Follow all local/regional/national/international regulations.

Container

Empty packaging completely.

Store for collection by approved waste disposal service.

Dispose of as non hazardous industrial waste.

Do NOT re-use containers.

Follow all local/regional/national/international regulations.

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

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 Directive 91/414/EC.

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.

This Safety Data Sheet has been prepared following the Regulation (EC) No. 1907/2006 (Annex II) as last amended by Regulation (EC) No. 453/2010

Classification of components

Components	Classification
Isopropylamine salt of glyphosate	Aquatic Chronic - Category 2 H411 Toxic to aquatic life with long lasting effects. N - Dangerous for the environment R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Minor formulating ingredients	
Water	

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), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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Safety Data Sheet (SDS) Annex

Chemical Safety Report:

Read and follow label instructions.