

<p style="text-align: center;"><b>MONSANTO COMPANY</b> Safety Data Sheet Commercial Product</p>
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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name**

**Roundup Custom[™] for Aquatic & Terrestrial Use**

**EPA Reg. No.**

524-343

**Product use**

Herbicide

**Chemical name**

Not applicable.

**Synonyms**

None.

**Company**

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

**Telephone:** 800-332-3111, **Fax:** 314-694-5557

**E-mail:** safety.datasheet@monsanto.com

**Emergency numbers**

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).

FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

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## 2. HAZARDS IDENTIFICATION

**Emergency overview**

**Appearance and odour (colour/form/odour):** Colourless - Amber / Liquid, (viscous) / Odourless

CAUTION!

**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.

**Single ingestion**

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

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

**OSHA Status**

This product is not hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Active ingredient**

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

**Composition**

COMPONENT	CAS No.	% by weight (approximate)
Isopropylamine salt of glyphosate	38641-94-0	53.8
Water	7732-18-5	46.2

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**4. FIRST AID MEASURES**

Use personal protection recommended in section 8.

**Eye contact**

If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

**Skin contact**

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.  
Wash clothes and clean shoes before re-use.

**Inhalation**

If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

**Ingestion**

Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person.

**Advice to doctors**

This product is not an inhibitor of cholinesterase.

**Antidote**

Treatment with atropine and oximes is not indicated.

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**5. FIRE-FIGHTING MEASURES**

**Flash point**

Does not flash.

**Extinguishing media**

Recommended: Water, foam, dry chemical, carbon dioxide (CO<sub>2</sub>)

**Unusual fire and explosion hazards**

None.  
Minimise use of water to prevent environmental contamination.  
Environmental precautions: see section 6.

**Hazardous products of combustion**

Carbon monoxide (CO), phosphorus oxides (P<sub>x</sub>O<sub>y</sub>), nitrogen oxides (NO<sub>x</sub>)

**Fire fighting equipment**

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

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## 6. ACCIDENTAL RELEASE MEASURES

### Environmental precautions

#### SMALL QUANTITIES:

Low environmental hazard.

#### LARGE QUANTITIES:

Minimise spread.

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

### Methods for cleaning up

#### SMALL QUANTITIES:

Absorb only in non-combustible material.

Sweep, scoop or vacuum to remove.

#### LARGE QUANTITIES:

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Flush residues with small quantities of water.

Minimise use of water to prevent environmental contamination.

Refer to section 7 for types of containers.

Refer to section 13 for disposal of spilled material.

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

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## 7. HANDLING AND STORAGE

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

### Handling

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.

### Storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

Compatible materials for storage: stainless steel, fibreglass, plastic

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.

Keep container tightly closed in a cool, well-ventilated place.

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.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Airborne exposure limits

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

Water	No specific occupational exposure limit has been established.
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**Engineering controls**

No special requirement when used as recommended.

**Eye protection**

No special requirement when used as recommended.

**Skin protection**

No special requirement when used as recommended.

**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.

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**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 - Amber
Odour:	Odourless
Form:	Liquid, (viscous)
Physical form changes (melting, boiling, etc.):	
Melting point:	Not applicable.
Boiling point:	No data.
Flash point:	Does not flash.
Explosive properties:	No data.
Auto ignition temperature:	No data.
Specific gravity:	1.206 @ 20 °C / 15.6 °C
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	No data.
Evaporation rate:	No data.
Dynamic viscosity:	No data.
Kinematic viscosity:	No data.
Density:	1.206 g/cm <sup>3</sup> @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4.6 - 4.8 @ 63 g/l
Partition coefficient:	log Pow: < 0.000 (active ingredient)

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**10. STABILITY AND REACTIVITY**

**Stability**

Stable under normal conditions of handling and storage.

**Oxidizing properties**

No data.

**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.

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## **11. TOXICOLOGICAL INFORMATION**

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

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

#### **Mutagenicity**

##### **Micronucleus test(s):**

Not mutagenic.

##### **Ames test(s):**

Not mutagenic with and without metabolic activation.

#### **Isopropylamine salt of glyphosate (62%)**

Data obtained on product and components are summarized below.

#### **Acute oral toxicity**

##### **Rat, LD50 (limit test):** > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

##### **Mouse, LD50 (limit test):** > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

#### **Acute dermal toxicity**

##### **Rabbit, LD50 (limit test):** > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

No mortality.

#### **Skin irritation**

##### **Rabbit, 6 animals, Draize test:**

Days to heal: 3

Primary Irritation Index (PII): 0.0/8.0

Essentially non irritating.

FIFRA category IV.

#### **Eye irritation**

##### **Rabbit, 6 animals, OECD 405 test:**

Days to heal: 0

FIFRA category IV.

#### **Acute inhalation toxicity**

##### **Rat, LC50, 4 hours, aerosol:** > 4.24 mg/L

Practically non-toxic.

FIFRA category IV.

No mortality. Maximum attainable concentration.

#### **Skin sensitization**

##### **Guinea pig, 3-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**

**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 ppm

Tumours: none

**Toxicity to reproduction/fertility**

**Rat, oral, 2 generations:**

NOAEL toxicity: 10,000 ppm

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

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## **12. ECOLOGICAL INFORMATION**

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

Data obtained on components are summarized below.

**Isopropylamine salt of glyphosate (62%)**

**Aquatic toxicity, fish**

**Bluegill sunfish (*Lepomis macrochirus*):**

Acute toxicity, 96 hours, static, LC50: > 1,000 mg/L

Practically non-toxic.

**Rainbow trout (*Oncorhynchus mykiss*):**

Acute toxicity, 96 hours, static, LC50: > 1,000 mg/L  
Practically non-toxic.

**Aquatic toxicity, invertebrates**

**Water flea (*Daphnia magna*):**

Acute toxicity, 48 hours, static, EC50: 930 mg/L  
Practically non-toxic.

**Aquatic toxicity, algae/aquatic plants**

**Green algae (*Scenedesmus subspicatus*):**

Acute toxicity, 72 hours, static, EbC50 (biomass): 72.9 mg/L  
Slightly toxic.

**Soil organism toxicity, invertebrates**

**Earthworm (*Eisenia foetida*):**

Acute toxicity, 14 days, LC50: > 5,000 mg/kg dry soil  
Practically non-toxic.

**N-(phosphonomethyl)glycine; { glyphosate}**

**Avian toxicity**

**Bobwhite quail (*Colinus virginianus*):**

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet  
No more than slightly toxic.

**Mallard duck (*Anas platyrhynchos*):**

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet  
No more than slightly toxic.

**Bobwhite quail (*Colinus virginianus*):**

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight  
Practically non-toxic.

**Arthropod toxicity**

**Honey bee (*Apis mellifera*):**

Oral, 48 hours, LD50: 100 µg/bee

**Honey bee (*Apis mellifera*):**

Contact, 48 hours, LD50: > 100 µg/bee  
Practically non-toxic.

**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

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## 13. DISPOSAL CONSIDERATIONS

**Product**

Not classified as hazardous waste by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261.  
Keep out of drains, sewers, ditches and water ways.  
Recycle if appropriate facilities/equipment available.  
Burn in proper incinerator.  
Follow all local/regional/national/international regulations.

**Container**

Dispose of as non hazardous industrial waste.

See the individual container label for disposal information.  
Emptied containers retain vapour and product residue.  
Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.  
Empty packaging completely.  
Triple or pressure rinse empty containers.  
Pour rinse water into spray tank.  
Do NOT contaminate water when disposing of rinse waters.  
Do NOT re-use containers.  
Store for collection by approved waste disposal service.  
Follow all local/regional/national/international regulations.

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

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## 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 hazardous under the applicable DOT, ICAO/IATA, IMO, TDG and Mexican regulations.

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## 15. REGULATORY INFORMATION

### TSCA Inventory

All components are on the US EPA's TSCA Inventory

### SARA Title III Rules

Section 311/312 Hazard Categories

Not applicable.

Section 302 Extremely Hazardous Substances

Not applicable.

Section 313 Toxic Chemical(s)

Not applicable.

### CERCLA Reportable quantity

Not applicable.

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## 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.

For more information refer to product label.

Please consult Monsanto if further information is needed.

In this document the British spelling was applied.

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	Health	Flammability	Instability	Additional Markings
NFPA	0	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

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)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

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