

**Monsanto Canada**  
Safety Data Sheet  
Commercial Product

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1. Product identifier

#### R/T 540 Liquid Herbicide

#### 1.1.1. Chemical name

Not applicable.

#### 1.1.2. Synonyms

None.

#### 1.1.3. PCP Reg. No.

28487

### 1.2. Product use

Herbicide

### 1.3. Company

Monsanto Canada, 900 - One Research Road, Winnipeg, MB, R3T 6E3

**Telephone:** 204-985-1000 or 800-667-4944, **Fax:** 204-488-9599

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

### 1.4. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT Call  
CANUTEC - Day or Night: 613-996-6666 (collect calls accepted) or MONSANTO: 314-694-4000  
(collect calls accepted).

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

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification

Classification according to the Hazardous Products Regulations, 2015 Workplace Hazardous Materials  
Information System (WHMIS 2015)

Acute toxicity, inhalation - Category 4

### 2.2. Label elements

#### Hazard pictogram/pictograms



#### Signal word

WARNING!

#### Hazard statement/statements

H332	Harmful if inhaled.
<b>Precautionary statement/statements</b>	
P261	Avoid breathing mist, vapours or spray.
P271	Use only outdoors or in a well-ventilated area.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

**2.3. Other hazards**  
Not applicable.

**2.4. Appearance and odour (colour/form/odour)**  
Amber-Brown /Liquid / Odourless

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.	Concentration
Potassium salt of glyphosate	70901-12-1	49.0000 %
Other ingredients		51.0000 %

The specific chemical identity and/or concentration range is being withheld because it is trade secret information of Monsanto Company.

#### Active ingredient

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

### 4. FIRST AID MEASURES

Use personal protection recommended in section 8.

#### 4.1. Description of first aid measures

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

- 4.1.1. Eye contact**  
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.
- 4.1.2. 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.
- 4.1.3. 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.

**4.1.4. Ingestion**

Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**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

**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:** Harmful by inhalation.

**Single ingestion:** 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.

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**5. FIRE-FIGHTING MEASURES**

**5.1. Extinguishing media**

**5.1.1. Recommended:** Water, Foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>)

**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<sub>x</sub>O<sub>y</sub>), Nitrogen oxides (NO<sub>x</sub>)

**5.3. Advice for firefighters**

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

**5.4. Flash point**

Does not flash.

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**6. ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions**

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

**6.2. Environmental precautions**

SMALL QUANTITIES: Low environmental hazard. LARGE QUANTITIES: Minimise spread. Keep out of drains, sewers, ditches and water ways.

**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. 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, skin and clothing. Avoid breathing vapour or mist. When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Thoroughly clean equipment after use. Do not contaminate drains, sewers and water ways when disposing of equipment 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, Aluminium, 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.

### 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.
Other ingredients	No specific occupational exposure limit has been established.

### 8.2. Exposure controls

#### Engineering controls

No special requirement when used as recommended.

#### Eye protection:

If there is significant potential for contact: Wear chemical goggles. Applicators and other handlers must wear eye protection.

#### Skin protection:

Wear chemical resistant gloves.

Applicators and other handlers must wear: Wear long sleeved shirt, long pants and shoes with socks.

If there is significant potential for contact: Wear face shield. Wear chemical resistant clothing/footwear. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment. If no such instructions for washables, use detergent and hot water. Keep and wash personal protective equipment separately from other laundry.

#### Respiratory protection:

No special requirement when used as recommended. If airborne exposure is excessive: Wear full facepiece/hood/helmet respirator. Respiratory protection programs must comply with all local/regional/national regulations.

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:	Amber - Brown
Form:	Liquid
Odour:	Odourless
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:	No data.
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	none
Specific gravity:	1.3522 20 °C / 15.6 °C
Vapour pressure:	No significant volatility; aqueous solution.
Vapour density:	Not applicable.
Dynamic viscosity:	No data.
Kinematic viscosity:	No data.
Density:	No data.
Solubility:	Water: Completely miscible.
pH:	4.8 67.7 g/l
Partition coefficient:	log Pow: -3.2 @ 25 °C (Glyphosate)

### 9.2 Other information

Evaporation rate:	No data.
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## 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, see section 10.

Compatible materials for storage: see section 7.2.

**10.6. Hazardous decomposition products**

Hazardous products of combustion: see section 5.

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## 11. TOXICOLOGICAL INFORMATION

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

**11.1. Information on toxicological effects**

**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:** Category 4

**Skin corrosion/irritation:** Based on available data classification criteria are not met.

**Eye corrosion/irritation:** Based on available data classification criteria are not met.

**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

**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:** Harmful by inhalation.

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

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

**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**

**Rat, LC50, 4 hours, aerosol:** > 1.20 mg/L  
Slightly toxic. 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.

**Skin sensitization**

**Guinea pig, 3-induction Buehler test:**  
Positive incidence: 0 %

**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.

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## 12. ECOLOGICAL INFORMATION

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

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

**12.1 Toxicity**

No data.

**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**

No data.

**12.6 Other adverse effects**

No data.

**12.7 Additional information**

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

**Similar formulation**

**Aquatic toxicity, fish**

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

Acute toxicity, 96 hours, semi-static, LC50: 3.13 mg/L

**Aquatic toxicity, algae/aquatic plants**

**Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, static, EbC50 (biomass): 0.124 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.

**Similar formulation**

**Aquatic toxicity, invertebrates**

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

Acute toxicity, 48 hours, static, EC50: 8.0 mg/L

**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

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**13. DISPOSAL CONSIDERATIONS**



### **13.1. Waste treatment methods**

#### **13.1.1. Product**

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.

#### **13.1.2. Container**

See the individual container label for disposal information. Emptied containers retain vapour and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Ensure packaging cannot be reused. Do NOT re-use containers. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. 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.

### **Transport of Dangerous Goods Regulations (TDG)**

- 14.1 **UN No.:** Not applicable.
- 14.2 **Proper Shipping Name (Technical Name if required):** Not applicable.
- 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 applicable.
- 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 applicable.
- 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.

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## **15. REGULATORY INFORMATION**

### **15.1. Pest Management Regulatory Agency, Pest Control Products Act [PMRA PCPA]**

PCPA registered.

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

CAUTION!  
POISON  
HARMFUL IF SWALLOWED  
HARMFUL IF INHALED  
CAUSES SKIN IRRITATION  
CAUSES EYE IRRITATION

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

## 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.

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)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE Pest Management Regulatory (PMRA)- 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 product labeling and provincial legislation, 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 PMRA-approved label.

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PRODUCT TO WHICH INFORMATION REFERS.
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