SAFETY DATA SHEET

ROUNDUP TRANSORB® HC LIQUID HERBICIDE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier
Trade name: ROUNDPUP TRANSORB® HC LIQUID HERBICIDE
Product code (UVP): 62290216
SDS Number: 102000040183
PCP Registration No.: 28198

Relevant identified uses of the substance or mixture and uses advised against
Use: Herbicide
Restrictions on use: See product label for restrictions.

Information on supplier
Supplier: Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada

Responsible Department: Email: SDSINFO.BCS-NA@bayer.com
Emergency telephone no.
Emergency Telephone Number (24hr/7 days): 1-800-334-7577
Product Information Telephone Number: 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations
Acute toxicity (Inhalation): Category 4

Labelling in accordance with Part 3 of the Hazardous Products Regulations

Signal word: Warning

Hazard statements
Harmful if inhaled.

Precautionary statements
Avoid breathing mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium salt of glyphosate</td>
<td>70901-12-1</td>
<td>48.8</td>
</tr>
<tr>
<td>Surfactant blend (proprietary)</td>
<td>&gt;7.0 – &lt;13.0</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Get medical attention if irritation develops and persists.

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 physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed
Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Risks This product is not a cholinesterase inhibitor.
TREATMENT
Treatment with atropine and oximes is not indicated. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture

In the event of fire the following may be released: Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Oxides of phosphorus.

Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. Equipment should be thoroughly decontaminated after use.

Further information

Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point does not flash

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Use personal protective equipment. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice
Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

Reference to other sections
Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling
Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
Hygiene measures
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. Keep working clothes separately. Garments that cannot be cleaned must be destroyed (burnt).

Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in a place accessible by authorized persons only. Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode. Protect from freezing. Partial crystallization may occur on prolonged storage below the minimum storage temperature. Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

Advice on common storage
Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
No known occupational limit values.

Exposure controls
Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection
When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
Hand protection
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection
Use tightly sealed goggles and face protection.

Skin and body protection
Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures
Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid, clear</td>
</tr>
<tr>
<td>Colour</td>
<td>green</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 - 4.9 (6.77 %) (23 °C) (deionized water)</td>
</tr>
<tr>
<td>Freezing range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>does not flash</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Minimum ignition energy</td>
<td>No data available</td>
</tr>
<tr>
<td>Self-accelerating decomposition temperature (SADT)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No significant volatility.</td>
</tr>
</tbody>
</table>
Evaporation rate: No data available
Relative vapour density: No data available
Relative density: No data available
Density: 1.36 g/cm³ (20 °C)
Water solubility: completely miscible
Partition coefficient: n-octanol/water
Potassium salt of glyphosate: log Pow: < -3.2 (25 °C)
Viscosity, dynamic: No data available
Viscosity, kinematic: No data available
Oxidizing properties: No oxidizing properties
Explosivity: Not applicable
Other information: Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY
Reactivity
Thermal decomposition: Stable under normal conditions.
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: Reacts with galvanized steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.
Conditions to avoid: Extremes of temperature and direct sunlight.
Incompatible materials: Galvanized steel, Carbon steel, Unlined mild steel
Hazardous decomposition products: Hazardous products of combustion: see section 5.

SECTION 11: TOXICOLOGICAL INFORMATION
Exposure routes: Skin contact, Eye contact, Inhalation
Immediate Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation.
Ingestion: Harmful if swallowed.
Inhalation: Harmful if inhaled.
Information on toxicological effects
### Acute oral toxicity
LD50 (Rat) > 5,000 mg/kg  
Test conducted with a similar formulation.

### Acute inhalation toxicity
LC50 (Rat) > 1.20 mg/l  
Exposure time: 4 h  
Determined in the form of liquid aerosol.  
Test conducted with a similar formulation.

### Acute dermal toxicity
LD50 (Rat) > 5,000 mg/kg  
Test conducted with a similar formulation.

### Skin corrosion/irritation
Moderate skin irritation. (Rabbit)  
Test conducted with a similar formulation.

### Serious eye damage/eye irritation
Slight irritant effect - does not require labelling. (Rabbit)  
Test conducted with a similar formulation.

### Respiratory or skin sensitisation
Non-sensitizing. (Guinea pig)  
Test conducted with a similar formulation.

### Assessment STOT Specific target organ toxicity – single exposure
Potassium salt of glyphosate: Based on available data, the classification criteria are not met.

### Assessment STOT Specific target organ toxicity – repeated exposure
Potassium salt of glyphosate did not cause specific target organ toxicity in experimental animal studies.

### Assessment mutagenicity
Potassium salt of glyphosate is not considered mutagenic.

### Assessment carcinogenicity
Potassium salt of glyphosate: Based on available data, the classification criteria are not met.  
Important comment to IARC Listing: Our expert opinion is that classification as a carcinogen is not warranted.

#### ACGIH
None.

#### NTP
None.

#### IARC
Potassium salt of glyphosate 70901-12-1 Overall evaluation: 2A

#### OSHA
None.

### Assessment toxicity to reproduction
Potassium salt of glyphosate: Based on available data, the classification criteria are not met.

### Assessment developmental toxicity
Potassium salt of glyphosate: Based on available data, the classification criteria are not met.

### Aspiration hazard
Based on available data, the classification criteria are not met.

### SECTION 12: ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity to fish</strong></td>
<td><strong>LC50 (Lepomis macrochirus (Bluegill sunfish)) 47 mg/l</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Exposure time: 96 h</strong></td>
</tr>
<tr>
<td></td>
<td>The value mentioned relates to the active ingredient glyphosate.</td>
</tr>
<tr>
<td><strong>Chronic toxicity to fish</strong></td>
<td><strong>Oncorhynchus mykiss (rainbow trout)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>flow-through test</strong></td>
</tr>
<tr>
<td></td>
<td><strong>NOEC: &gt;= 9.63 mg/l</strong></td>
</tr>
<tr>
<td></td>
<td>The value mentioned relates to the active ingredient glyphosate.</td>
</tr>
<tr>
<td><strong>Toxicity to aquatic invertebrates</strong></td>
<td><strong>LC50 (Crassostrea gigas (Portuguese oyster)) 40 mg/l static test;</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Exposure time: 48 h</strong></td>
</tr>
<tr>
<td></td>
<td>The value mentioned relates to the active ingredient glyphosate.</td>
</tr>
<tr>
<td><strong>Chronic toxicity to aquatic invertebrates</strong></td>
<td><strong>EC50 (Daphnia magna (Water flea)) 12.5 mg/l</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Exposure time: 21 d</strong></td>
</tr>
<tr>
<td></td>
<td>The value mentioned relates to the active ingredient glyphosate.</td>
</tr>
<tr>
<td><strong>Toxicity to aquatic plants</strong></td>
<td><strong>ErC50 (Skeletonema costatum) 13.5 mg/l</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Growth rate; Exposure time: 72 h</strong></td>
</tr>
<tr>
<td></td>
<td>The value mentioned relates to the active ingredient glyphosate.</td>
</tr>
<tr>
<td><strong>Biodegradability</strong></td>
<td>Potassium salt of glyphosate:</td>
</tr>
<tr>
<td></td>
<td>Not readily biodegradable.</td>
</tr>
<tr>
<td><strong>Koc</strong></td>
<td>Potassium salt of glyphosate: Koc: 884</td>
</tr>
<tr>
<td><strong>Bioaccumulation</strong></td>
<td>Potassium salt of glyphosate: Bioconcentration factor (BCF) &lt; 1</td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td>Potassium salt of glyphosate: Variable, depends on temperature, soil type, soil moisture, soil pH and organic matter content.</td>
</tr>
</tbody>
</table>

**Results of PBT and vPvB assessment**

Potassium salt of glyphosate: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

**Additional ecological information**

No further ecological information is available.

**Environmental precautions**

Apply this product as specified on the label.
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
Retain and dispose of contaminated wash water.
SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Do not contaminate water, food, or feed by disposal. Follow all local/regional/national/international regulations.

Contaminated packaging
Follow advice on product label and/or leaflet. Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 28198

PMRA Information:
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:

Signal word: Warning!

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

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

- 49CFR: Code of Federal Regulations, Title 49
- ACGIH: US. ACGIH Threshold Limit Values
- ATE: Acute toxicity estimate
- CAS-Nr.: Chemical Abstracts Service number
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
- EINECS: European inventory of existing commercial substances
- ELINCS: European list of notified chemical substances
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods
- N.O.S.: Not otherwise specified
- NTP: US. National Toxicology Program (NTP) Report on Carcinogens
- OECD: Organization for Economic Co-operation and Development
- TDG: Transportation of Dangerous Goods
- TWA: Time weighted average
- UN: United Nations
- WHO: World health organisation

NFPA 704 (National Fire Protection Association):

Health - 2  Flammability - 1  Instability - 1  Others - none


Health - 2  Flammability - 1  Physical Hazard -  

PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: New Safety Data Sheet.

Revision Date: 01/12/2021

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