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

Product identifier
Trade name                  ROUNDUP QUIKPRO™ HERBICIDE
Product code (UVP)           86809095
SDS Number                  102000037606
EPA Registration No.         524-535

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 LP
                            800 North Lindbergh Blvd.
                            St. Louis, MO 63167
                            USA
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 1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Specific target organ toxicity - repeated exposure: Category 2

Labelling in accordance with regulation HCS 29CFR §1910.1200

Signal word: Warning
Hazard statements
May cause damage to organs (Eyes, Kidney) through prolonged or repeated
exposure.

Precautionary statements
Do not breathe dust.
Get medical advice/attention if you feel unwell.
Dispose of contents/container in accordance with local regulation.

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>Ammonium salt of glyphosate</td>
<td>114370-14-8</td>
<td>73.3</td>
</tr>
<tr>
<td>Diquat dibromide</td>
<td>85-00-7</td>
<td>2.9</td>
</tr>
<tr>
<td>Polyether modified trisiloxane</td>
<td>134180-76-0</td>
<td>14.1</td>
</tr>
</tbody>
</table>

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. Call a physician or poison control center immediately.

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.

Specific hazards from the substance or mixture which can increase the fire

Flash point

Not applicable

Auto-ignition temperature

No data available

Lower explosion limit

Not applicable

Upper explosion limit

Not applicable

Explosivity

Not explosive
SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up
Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container 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 dust formation. Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

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.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers
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 original container and out of the reach of children, preferably in a locked storage area. Protect from freezing. Keep away from direct sunlight. Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode. 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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diquat dibromide</td>
<td>85-00-7</td>
<td>0.5 mg/m³ (REL)</td>
<td>2005</td>
<td>NIOSH</td>
</tr>
<tr>
<td>(Respirable fraction.)</td>
<td>85-00-7</td>
<td>0.1 mg/m³ (TWA)</td>
<td>01 2022</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Diquat dibromide</td>
<td>85-00-7</td>
<td>0.5 mg/m³ (TWA PEL)</td>
<td>09 2006</td>
<td>US CA OEL</td>
</tr>
<tr>
<td>(Total dust.)</td>
<td>85-00-7</td>
<td>0.5 mg/m³ (TWA)</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Diquat dibromide</td>
<td>85-00-7</td>
<td>0.5 mg/m³ (TWA)</td>
<td>01 2022</td>
<td>ACGIH</td>
</tr>
<tr>
<td>(Inhalable fraction.)</td>
<td>85-00-7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

Eye protection Tightly fitting safety goggles

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

Form small rod
Colour light yellow to brown
Odour slight
Odour Threshold No data available
pH 3.7 (10 g/l)
Melting point/range No data available
Boiling Point No data available
Flash point Not applicable
Flammability Not applicable
Auto-ignition temperature No data available
Thermal decomposition No data available
Minimum ignition energy Not applicable
Self-accelerating decomposition temperature (SADT) No data available
Upper explosion limit Not applicable
Lower explosion limit Not applicable
Vapour pressure No data available
Evaporation rate No data available
Relative vapour density No data available
Relative density No data available
Density No data available
Bulk density 0.68 g/ml (bulk density tapped)
Water solubility soluble
Partition coefficient: n-octanol/water Glyphosate: log Pow: -2.9
                      Diquat dibromide: log Pow: -4.6
Viscosity, dynamic No data available
Viscosity, kinematic No data available
Oxidizing properties No oxidizing properties
Explosivity Not explosive
Other information Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY
Reactivity
Stable under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Reacts with galvanised 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
Galvanised steel, Unlined mild steel

Hazardous decomposition products
No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes
Skin contact, Eye contact, Inhalation, Ingestion

Immediate Effects
Eye
May cause temporary eye irritation.

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

Ingestion
Harmful if swallowed.

Inhalation
Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity
LD50 (Rat) 4,443 mg/kg

Acute inhalation toxicity
LC50 (Rat) > 0.99 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.

Acute dermal toxicity
LD50 (Rat) > 5,000 mg/kg

Skin corrosion/irritation
Slight irritant effect - does not require labelling. (Rabbit)

Serious eye damage/eye irritation
Moderate eye irritation. (Rabbit)

Respiratory or skin sensitisation
Skin: Non-sensitizing. (Guinea pig)
OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure
Glyphosate: Based on available data, the classification criteria are not met.
Diquat dibromide: May cause respiratory irritation.

Assessment STOT Specific target organ toxicity – repeated exposure
Glyphosate did not cause specific target organ toxicity in experimental animal studies.
Diquat dibromide caused specific target organ toxicity in experimental animal studies in the following organ(s): Eyes, Kidney. Diquat dibromide caused Cataract in animal studies.
Assessment mutagenicity
Glyphosate was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Diquat dibromide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity
Glyphosate was not carcinogenic in lifetime feeding studies in rats and mice.
Important comment to IARC Listing:, Our expert opinion is that classification as a carcinogen is not warranted.
Diquat dibromide was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH
Diquat dibromide 85-00-7 Group A4

NTP
None.

IARC
Ammonium salt of glyphosate 114370-14-8 Overall evaluation: 2A

Assessment toxicity to reproduction
Glyphosate did not cause reproductive toxicity in a two-generation study in rats.
Diquat dibromide did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity
Glyphosate did not cause developmental toxicity in rats and rabbits.
Diquat dibromide caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Diquat dibromide are related to maternal toxicity.

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

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)) 5.4 mg/l static test; Exposure time: 96 h
Test conducted with a similar formulation.

LC50 (Lepomis macrochirus (Bluegill sunfish)) 12.1 - 21.5 mg/l static test; Exposure time: 72 h
The value mentioned relates to the active ingredient diquat dibromide.

LC50 (Oncorhynchus mykiss (rainbow trout)) 14.8 mg/l static test; Exposure time: 96 h
The value mentioned relates to the active ingredient diquat dibromide.

Chronic toxicity to fish
Oncorhynchus mykiss (rainbow trout) flow-through test
NOEC: >= 9.63 mg/l
The value mentioned relates to the active ingredient glyphosate.
Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 11 mg/l static test; Exposure time: 48 h
Test conducted with a similar formulation.

EC50 (Daphnia magna (Water flea)) 0.77 - 1.19 mg/l static test;
Exposure time: 48 h
The value mentioned relates to the active ingredient diquat dibromide.

Chronic toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 12.5 mg/l
Exposure time: 21 d
The value mentioned relates to the active ingredient glyphosate.

Toxicity to aquatic plants

EbC50 (Raphidocelis subcapitata (freshwater green alga)) 72.9 mg/l
static test; Exposure time: 72 h
The value mentioned relates to the active ingredient glyphosate.

NOEC (Raphidocelis subcapitata (freshwater green alga)) 26.4 mg/l
static test; Exposure time: 72 h
The value mentioned relates to the active ingredient glyphosate.

EC50 (Raphidocelis subcapitata (freshwater green alga)) 0.0094 mg/l
static test; Exposure time: 96 h
The value mentioned relates to the active ingredient diquat dibromide.

Biodegradability

Glyphosate:
Not rapidly biodegradable
Diquat dibromide:
Not rapidly biodegradable

Koc
Diquat dibromide: Koc: 2184750

Bioaccumulation

Glyphosate: Bioconcentration factor (BCF) < 1
Does not bioaccumulate.
Diquat dibromide: Bioconcentration factor (BCF) 1
Does not bioaccumulate.

Mobility in soil
Glyphosate: Slightly mobile in soils
Diquat dibromide: Immobile in soil

Results of PBT and vPvB assessment

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).
Diquat dibromide: 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 Dispose in accordance with all local, state/provincial and federal
regulations.
Contaminated packaging Consult state and local regulations regarding the proper disposal of
container.
Follow advice on product label and/or leaflet.
RCRA Information Characterization and proper disposal of this material as a special or
hazardous waste is dependent upon Federal, State and local laws and
are the user’s responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR
UN number 3077
Class 9
Packaging group III
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID,
N.O.S.
(DIQUAT DIBROMIDE)
RQ Reportable Quantity is reached with 34,482 lb of product.

IMDG
UN number 3077
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(DIQUAT DIBROMIDE)

IATA
UN number 3077
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(DIQUAT DIBROMIDE)
This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: COMPOUNDS, TREE OR WEED KILLING, N.O.I. other than poison, HAVING A DENSITY OF 20 LBS OR GREATER PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 524-535
US Federal Regulations
TSCA list
Polyether modified trisiloxane 134180-76-0
US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) No export notification needs to be made.
SARA Title III - Section 302 - Notification and Information Not applicable.
SARA Title III - Section 313 - Toxic Chemical Release Reporting None.

US States Regulatory Reporting
CA Prop65 This product does not contain any substances known to the State of California to cause cancer.
This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
Diquat dibromide 85-00-7 CA, CT, IL, NJ, RI

Environmental CERCLA
Yes
Diquat dibromide 85-00-7

Clean Water Section 307(a)(1) None.
Safe Drinking Water Act Maximum Contaminant Levels
Yes
Diquat dibromide 85-00-7

EPA/FIFRA Information:
This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification
criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:**
- Harmful if swallowed.
- Harmful if inhaled.
- Causes moderate eye irritation.

---

**SECTION 16: OTHER INFORMATION**

<table>
<thead>
<tr>
<th>Abbreviations and acronyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>49CFR</td>
</tr>
<tr>
<td>ACGIH</td>
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<tr>
<td>ATE</td>
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<tr>
<td>CAS-Nr.</td>
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<td>UN</td>
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<td>WHO</td>
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</tbody>
</table>

**NFPA 704 (National Fire Protection Association):**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
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</tbody>
</table>


<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

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

**Reason for Revision:** New Safety Data Sheet.

**Revision Date:** 01/27/2023

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are