



## NOTICE OF LANDSCAPE APPLICATION

**Date of Application:** July 5, 2024

**Location:** Reverence Park

**Reason for Application:** To properly prepare the turf for a water saving conversion project.

**Product Manufacturer Name:** Yara Ammonium Sulfate 21-0-0.

-Active ingredients: N/A

-Precautionary statement: No known significant effects or critical hazards.

**Product Manufacturer Name:** Round Up Quick Pro Herbicide.

-EPA registration no. 524-535

-Active ingredients: glyphosate-ammonium, diquat dibromide

-Precautionary statement: Harmful if swallowed or inhaled. Causes moderate eye irritation.

**\*See attached label and SDS sheet**

**\*Dates are subject to change due to weather**

# AMMONIUM SULFATE 21-0-0

THE VIKING SHIP® BRAND IS A REGISTERED TRADEMARK OF YARA INTERNATIONAL ASA



**AMMONIUM  
SULFATE**

**21-0-0**

Guaranteed by  
Yara North America, Inc.  
100 North Tampa Street  
Suite 3200  
Tampa, FL 33602

For Yara International ASA,  
Oslo, Norway

**50 LBS/22.7 KG**



AMMONIUM SULFATE 21-0-0



AMMONIUM SULFATE 21-0-0

# AMMONIUM SULFATE 21-0-0

50 LBS. NET WT. (22.7 kg)



VIKING SHIP® BRAND  
AMMONIUM SULFATE  
21-0-0

**Guaranteed Analysis**

Total Nitrogen (N)..... 21%  
21.0% Ammoniacal Nitrogen  
Sulfur (S)..... 24.0%  
24.0% Combined Sulfur (S)

**Derived from Ammonium Sulfate**

Use in accordance with recommendations of a qualified individual or institution, such as, but not limited to, a certified crop advisor, agronomist, university crop extension publication, or apply according to recommendations in your approved nutrient management plan.

"THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS WITH RESPECT TO THESE PRODUCTS. NOR ARE THERE ANY EXPRESSED WARRANTIES OTHER THAN AS MAY BE CONTAINED IN ANY GUARANTEED ANALYSIS THAT MAY ACCOMPANY THE PRODUCT. BUYER ASSUMES ALL RISK TO PERSON AND PROPERTY IN THE USE, HANDLING OR STORAGE OF THE PRODUCT. SELLER'S LIABILITY IS LIMITED TO THE FULL AMOUNT OF THE PURCHASE PRICE, WITH THE WAIVER OF ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES BEING AN EXPRESSED PROVISION OF THIS SALE."

**FIRST AID**

**CAUTION: MINERAL FERTILIZERS ARE INORGANIC SALTS OR MIXTURES OF SALTS. BY THEIR NATURE, FERTILIZER SALTS MAY BE IRRITATING TO THE SKIN AND EYES. PRECAUTIONS SHOULD BE TAKEN TO PREVENT EYE CONTACT AND MINIMIZE SKIN CONTACT. FERTILIZER DUSTS ARE CONSIDERED NUISANCE-TYPE DUSTS. INHALATION OF NUISANCE DUSTS MAY INDUCE OR AGGRAVATE RESPIRATORY DISCOMFORT. APPROVED DUST RESPIRATORS SHOULD BE USED WHEN FERTILIZER DUST IS PRESENT. WHEN HANDLING FERTILIZERS IN ENCLOSED AREAS, ADEQUATE VENTILATION SHOULD BE EMPLOYED TO MOVE DUST. SKIN: FLUSH WITH WATER AND WASH THOROUGHLY WITH SOAP AND WATER, REPEAT AS NECESSARY. EYES: FLOOD WITH CLEAN WATER IMMEDIATELY FOR AT LEAST 15 MINUTES, REPEAT AS NECESSARY. INGESTION: GIVE 2-3 GLASSES OF WATER AND INDUCE VOMITING. CONTACT A PHYSICIAN. IN ALL CASES OF DISCOMFORT DUE TO EXPOSURE, SEEK MEDICAL ATTENTION.**

HANDLE THIS PRODUCT PROPERLY TO ASSURE OPTIMUM QUALITY AND PERFORMANCE:  
USE CLEAN, DRY AND WELL MAINTAINED EQUIPMENT.



Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfc.org/metals.htm>

Warning: This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

Yara offers a wide spectrum of fertilizer products. For higher quality, yield and profits, use Yara.



Nitrates



NK/NPKs



Commodities

Also available from Yara:

- Potassium Sulfate
- Slow Release
- Micronutrients

**Questions/  
Information**

Customer Service:  
800-234-9376

Visit our website  
[www.yara.us](http://www.yara.us)



1023

Conforms: GHS (rev 3)(2009)

(This Safety Data Sheet conforms to the requirements of the Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012.) - United States

**Date of issue/ Date of revision** : 12/04/2014  
**Date of previous issue** : 12/16/2013  
**Version** : 1.1



# SAFETY DATA SHEET

## Ammonium Sulfate 21-0-0

### Section 1. Identification

**Product name** : Ammonium Sulfate 21-0-0  
**Other means of identification** : Ammonium Sulphate  
**Product type** : Solid (crystalline)  
**Product code** : PA182U

#### Uses

**Area of application** : Professional applications  
**Material uses** : Fertilizers.

#### Supplier

**Supplier's details** : Yara North America, Inc.

#### Address

**Street** : 100 North Tampa Street, Suite 3200  
**Postal code** : 33602  
**City** : TAMPA  
**Country** : United States

**Telephone number** : +1 813 222 5700  
**Fax no.** : +1 813 875 5735  
**e-mail address of person responsible for this SDS** : yna-hesq@yara.com  
**Emergency telephone number (with hours of operation)** : US: Chemtrec 24-hours Emergency Response: 1-800-424-9300  
Canada: 24 Hour Emergency Service, (Canutec 613-996-6666)

#### National advisory body/Poison Center

**Name** : The National Poisons Emergency number  
**Telephone number** : 1 800 222 1222

### Section 2. Hazards identification

**OSHA/HCS status** : This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification and labelling have been performed following the guidelines and recommendation of GHS and the intended use.**

**Classification of the substance or mixture** : Not classified.

**GHS label elements**

**Signal word** : No signal word.

**Hazard statements** : Not applicable.

**Precautionary statements**

**General** : Not applicable.

**Hazards not otherwise classified** : May be harmful if swallowed. Product forms slippery surface when combined with water.

**Section 3. Composition/information on ingredients**

**Substance/mixture** : Substance

**CAS number/other identifiers**

**Other means of identification** : Ammonium Sulphate

**CAS number** : 7783-20-2

Product / ingredient name	CAS number	%
Sulfuric acid ammonium salt (1:2)	CAS: 7783-20-2	>=80 - <100

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

**Section 4. First aid measures****Description of necessary first aid measures**

- Eye contact** : Rinse with plenty of running water. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe.

**Most important symptoms/effects, acute and delayed****Potential acute health effects**

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (section 11)

**Section 5. Fire-fighting measures****Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None identified.
- Specific hazards arising from the chemical** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
nitrogen oxides  
sulfur oxides  
Avoid breathing dusts, vapors or fumes from burning materials.  
In case of inhalation of decomposition products in a fire, symptoms may be delayed.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Non-flammable.
- Remark** : None.

**Section 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable

- materials. See also the information in "For non-emergency personnel".
- Personal precautions, protective equipment and emergency procedures** :
- No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** :
- Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods and material for containment and cleaning up**
- Small spill** :
- Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** :
- Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Precautions for safe handling** :
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Protective measures** :
- Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** :
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :
- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. A washing facility or water for eye and skin cleaning purposes should be present.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid [crystalline]
- Color** : White.
- Odor** : Odorless.
- Odor threshold** : Not determined.
- pH** : 5 - 6 [Conc.: 100 g/l] @ 25 °C (77.00 °F)
- Melting/freezing point** : Decomposition temperature: > 350 °C (662.00 °F)
- Boiling/condensation point** : Not determined.
- Sublimation temperature** : Not determined.
- Flash point** : Not determined.
- Evaporation rate** : Not determined.
- Flammability** : Non-flammable.
- Lower and upper explosive (flammable) limits** : **Lower:** Not determined.  
**Upper:** Not determined.



<b>Vapor pressure</b>	:	< 0.000001 hPa
<b>Relative density</b>	:	1.77 @ 25 °C (77.00 °F)
<b>Solubility</b>	:	Not determined.
<b>Solubility in water</b>	:	764 g/l
<b>Partition coefficient: n-octanol/water</b>	:	Not determined.
<b>Auto-ignition temperature</b>	:	Not determined.
<b>Decomposition temperature</b>	:	> 350 °C (662.00 °F)
<b>Viscosity</b>	:	<b>Dynamic:</b> Not determined. <b>Kinematic:</b> Not determined.
<b>Explosive properties</b>	:	None.
<b>Oxidizing properties</b>	:	None.

## Section 10. Stability and reactivity

<b>Reactivity</b>	:	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	:	The product is stable.
<b>Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	:	Avoid contamination by any source including metals, dust and organic materials.
<b>Incompatible materials</b>	:	No specific data.
<b>Hazardous decomposition products</b>	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid ammonium salt (1:2)					
	LD50 Oral	Rat	4,250 mg/kg OECD 401	-	IUCLID 5
	LC50 Inhalation	Rat	1 mg/l	8 h	IUCLID 5
	LD50 Dermal	Rat	> 2,000 mg/kg OECD 434	-	IUCLID 5

**Conclusion/Summary** : May be harmful if swallowed.

#### Irritation/Corrosion

**Conclusion/Summary**

**Skin** : No known significant effects or critical hazards.

**Eyes** : No known significant effects or critical hazards.

**Respiratory** : No known significant effects or critical hazards.

#### Sensitization

#### **Conclusion/Summary**

**Skin** : No known significant effects or critical hazards.  
**Respiratory** : No known significant effects or critical hazards.

#### Mutagenicity

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Carcinogenicity

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid ammonium salt (1:2)	Negative - Oral - NOAEL	Rat	284 mg/kg bw/day	-	IUCLID 5

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Reproductive toxicity

Product / ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure	References
Sulfuric acid ammonium salt (1:2)	-	Negative	Negative	Rat	Oral: 1500 mg/kg bw/day OECD 422	-	IUCLID 5

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Teratogenicity

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

#### Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

#### Aspiration hazard

No known significant effects or critical hazards.

**Information on the likely routes of exposure** : Not available.

#### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

Product / ingredient name	Result	Species	Dose	Exposure	References
Sulfuric acid ammonium salt (1:2)	NOAEL Oral	Rat	256 mg/kg	365days	IUCLID 5
Sulfuric acid ammonium salt (1:2)	NOEC Inhalation	Rat	0.3 mg/kg	14days 8 hours per day	IUCLID 5

**Conclusion/Summary** : No known significant effects or critical hazards.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Not available.

## Section 12. Ecological information

**Toxicity**

Product / ingredient name	Result	Species	Exposure	References
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## Sulfuric acid ammonium salt (1:2)

	Acute EC50 121.7 mg/l Fresh water	Aquatic invertebrates. - Daphnia magna	48 h	IUCLID 5
	Acute EC50 2,700 mg/l Fresh water	Aquatic plants - Heterosigma akashiwo	432 h	IUCLID 5

**Conclusion/Summary** : No known significant effects or critical hazards.

**Persistence/degradability**

**Conclusion/Summary** : No known significant effects or critical hazards.

**Bioaccumulative potential**

**Conclusion/Summary** : No known significant effects or critical hazards.

**Mobility in soil**

**Soil/water partition coefficient (KOC)** : Not available.

**Mobility** : This product may move with surface or groundwater flows because its water solubility is: high

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**United States - RCRA Acute hazardous waste "P" List:**

Not listed

**United States - RCRA Toxic hazardous waste "U" List:**

Not listed

## Section 14. Transport information

**Regulation: UN Class**

Date of issue : 12/04/2014

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14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Environmental hazards</u>	: No.

<b>Regulation: IMDG</b>	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Marine pollutant</u>	: No.

<b>Regulation: IATA</b>	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Marine pollutant</u>	No.

<b>Regulation: DOT Classification</b>	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	
14.4 Packing group	
14.5 Environmental hazards	No.
14.6 Additional information <u>Environmental hazards</u>	: No.

<b>Regulation: TDG Class</b>	
14.1 UN number	Not regulated.
14.2 UN proper shipping name	
14.3 Transport hazard class(es)	

<b>14.4 Packing group</b>	
<b>14.5 Environmental hazards</b>	No.
<b>14.6 Additional information</b> <b><u>Environmental hazards</u></b>	: No.

**Special precautions for user** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**IMSBC**

**Bulk cargo shipping name** : AMMONIUM SULPHATE  
**Class** : Not applicable.  
**Group** : C

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

## Section 15. Regulatory information

**United States**

**U.S. Federal regulations** :

- United States - TSCA 12(b) - Chemical export notification:** None of the components are listed.
- United States - TSCA 4(a) - Final Test Rules:** Not listed
- United States - TSCA 4(e) - ITC Priority list:** Not listed
- United States - TSCA 4(a) - Proposed test rules:** Not listed
- United States - TSCA 4(f) - Priority risk review:** Not listed
- United States - TSCA 5(a)2 - Final significant new use rules:** Not listed
- United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed
- United States - TSCA 5(e) - Substances consent order:** Not listed
- United States - TSCA 6 - Final risk management:** Not listed
- United States - TSCA 6 - Proposed risk management:** Not listed
- United States - TSCA 8(a) - Comprehensive assessment report (CAIR):** Not listed
- United States - TSCA 8(a) - Chemical risk rules:** Not listed
- United States - TSCA 8(a) - Dioxin/Furane precursor:** Not listed
- United States - TSCA 8(a) - Chemical Data Reporting (CDR):** Not determined
- United States - TSCA 8(a) - Preliminary assessment report (PAIR):** Not listed
- United States - TSCA 8(c) - Significant adverse reaction (SAR):** Not listed
- United States - TSCA 8(d) - Health and safety studies:** Not listed
- United States - EPA Clean water act (CWA) section**

**307 - Priority pollutants:** Not listed  
**United States - EPA Clean water act (CWA) section 311 - Hazardous substances:** Not listed  
**United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Flammable substances:** Not listed  
**United States - EPA Clean air act (CAA) section 112 - Accidental release prevention - Toxic substances:** Not listed  
**United States - Department of commerce - Precursor chemical:** Not listed

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed  
**Clean Air Act Section 602 Class I Substances** : Not listed  
**Clean Air Act Section 602 Class II Substances** : Not listed  
**DEA List I Chemicals (Precursor Chemicals)** : Not listed  
**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**  
 Not applicable.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Not applicable.

**SARA 313**

		<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	:	Sulfuric acid ammonium salt (1:2)	7783-20-2	80 - 100
<b>Supplier notification</b>	:	Sulfuric acid ammonium salt (1:2)	7783-20-2	80 - 100

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**State regulations**

**Massachusetts** : The following components are listed:  
 Sulfuric acid ammonium salt (1:2)  
**New York** : None of the components are listed.  
**New Jersey** : None of the components are listed.  
**Pennsylvania** : The following components are listed:  
 Sulfuric acid ammonium salt (1:2)

**California Prop. 65**

This product contains a chemical (or chemicals) known to the State of California to cause cancer and birth defects or other reproductive harm.

**International lists**

**Philippines inventory (PICCS):** All components are listed or exempted.

**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.

**Korea inventory:** All components are listed or exempted.

**Japan inventory:** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Australia inventory (AICS):** All components are listed or exempted.

**Canada inventory (DSL and NDSL):** All components are listed or exempted.

**United States inventory (TSCA 8b):** All components are listed or exempted.

**EC INVENTORY (EINECS/ELINCS):** All components are listed or exempted.

**Safety, health and environmental regulations specific for the product** : No known other specific national and/or regional regulations applicable to this product (including its ingredients).

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

<b>Health</b>	-	1
<b>Flammability</b>		0
<b>Physical hazards</b>		0

**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

### Chronic toxicity:

- : No data available.

\* : Carcinogen, Target organs, Reproductive effects, Sensitizer to lungs

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Key to abbreviations** : ADN/ADNR = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road



ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 bw = Body weight  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 NOHSC - National Occupational Health and Safety Commission  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons  
 UN = United Nations

**References**

- : EU REACH IUCLID5 CSR.
- National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda Registry of Toxic Effects of Chemical Substances.
- IHS, 4777 Levy Street, St Laurent, Quebec HAR 2P9, Canada.

**History**

- Date of printing** : 12/08/2014
- Date of issue/Date of revision** : 12/04/2014
- Date of previous issue** : 12/16/2013
- Version** : 1.1
- Prepared by** : Yara Product Classifications & Regulations.

|| Indicates information that has changed from previously issued version.

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

## ATTENTION:

This specimen label is provided for general information only.

- This pesticide product may not yet be available or approved for sale or use in your area.
- It is your responsibility to follow all Federal, state and local laws and regulations regarding the use of pesticides.
- Before using any pesticide, be sure the intended use is approved in your state or locality.
- Your state or locality may require additional precautions and instructions for use of this product that are not included here.
- Monsanto does not guarantee the completeness or accuracy of this specimen label. The information found in this label may differ from the information found on the product label. You must have the EPA approved labeling with you at the time of use and must read and follow all label directions.
- You should not base any use of a similar product on the precautions, instructions for use or other information you find here.
- Always follow the precautions and instructions for use on the label of the pesticide you are using.

98005J6-17



Roundup QuikPRO herbicide is a fast-acting, non-selective professional herbicide for use in non-crop areas and industrial sites.

## Complete Directions for Use

AVOID CONTACT OF THIS HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS, OR DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

EPA Reg. No. 524-535

2011-1

Read the entire label before using this product.

Use only according to label instructions.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

## 1.0 INGREDIENTS

ACTIVE INGREDIENTS:

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its ammonium salt	73.3%
Diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c) pyrazinedium dibromide]	2.9%
OTHER INGREDIENTS:	23.8%
	100.0%

\*Equivalent to 66.6% of the acid, glyphosate

1.0 pound contains 0.73 pound of the ammonium salt of glyphosate and 0.03 pound of the dibromide salt of diquat.

This product is protected by U.S. Patent No. 7,008,904. Other patents pending. No license granted under any patent to use this product other than in accordance with this label. No license granted under any non-U.S. patent(s).

## 2.0 IMPORTANT PHONE NUMBERS

FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE, 1-800-332-3111.

IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT, (314)-694-4000.

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

## CAUTION!

HARMFUL IF SWALLOWED.  
HARMFUL IF INHALED.  
CAUSES MODERATE EYE IRRITATION.

Avoid breathing dust or spray mist.  
Avoid contact with eyes or clothing.  
Remove contaminated clothing and wash clothing before reuse.  
Wash thoroughly with soap and water after handling.

### FIRST AID

<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• Call a physician or Poison Control Center for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a Poison Control Center or physician.</li><li>• Do not give anything by mouth to an unconscious person.</li><li>• <b>Quick treatment is essential to counteract poisoning and should be initiated before signs and symptoms of injury appear.</b></li></ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a Poison Control Center or physician for further treatment advice.</li></ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• 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.</li><li>• Call a Poison Control Center or physician for treatment advice.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or physician, or going for treatment.</li><li>• You may also contact (314) 694-4000, collect day or night, for emergency medical treatment information.</li><li>• This product is identified as Roundup QuikPRO™ herbicide, EPA Registration No. 524-535.</li></ul>	

**DOMESTIC ANIMALS:** Keep livestock and pets out of treated areas. Do not graze livestock on treated areas. This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, protective footwear plus socks, and protective eyewear. Discard clothing and other materials that have been heavily contaminated with this product's concentrate. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

## 3.2 Environmental Hazards

This product is toxic to aquatic invertebrates. 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 water when cleaning equipment or disposing of equipment washwaters.

## 3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Entry Restrictions: Keep all unprotected persons out of operating areas or vicinity where there may be drift. Keep people and pets off treated areas until spray solution has dried.

## 4.0 STORAGE AND DISPOSAL

Proper pesticide storage and disposal are essential to protect against exposure to people and the environment due to leaks and spills, excess product or waste, and vandalism. Do not allow this product to contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep container closed to prevent spills and contamination.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container, including rinsate, by application in accordance with label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program. Such programs are often run by state or local governments or by industry. All disposal must be in accordance with applicable Federal, State and local procedures.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. When completely empty, offer for recycling if available, or dispose of bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## 5.0 PRODUCT INFORMATION

**Product Description:** This product is a postemergent, systemic herbicide with no residual soil activity. It is non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. This product is formulated as a water-soluble granule containing surfactant and no additional surfactant is needed. Apply through most standard sprayers after dissolution and thorough mixing with water according to label instructions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact and into the root system. Visible effects on most annual weeds occur within 1 day, and on most perennial weeds in 2 days. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a quick yellowing of the foliage which advances to complete browning of above-ground growth and deterioration of underground plant parts.

**Mode of Action:** One of the active ingredients in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids. A second active rapidly disrupts cell integrity of photosynthetically active tissues in the contacted foliage.

**Cultural Considerations:** Reduced control may result when application is made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the specified stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate weed control.

**Spray Coverage:** Uniform and complete spray coverage will provide best results. Do not spray weed foliage to the point of runoff.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Plants growing from unattached underground rhizomes or root stocks of perennials that have not yet emerged at the time of application will not be affected by the herbicide and will continue to grow.

**Annual Maximum Use Rate:** The maximum allowed application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient glyphosate, whether applied separately or as tank mixtures. If more than one glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of glyphosate (pounds acid equivalent) does not exceed the maximum allowed. For non-crop uses, the combined total of all treatments must not exceed 12.25 pounds of this product (8 pounds of glyphosate acid) per acre per year.

### ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, EXPOSED NON-WOODY ROOTS, OR DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to desirable plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or desirable plants, or other unintended consequences. Keep container closed to prevent spills and contamination.

## 6.0 MIXING

Mix only the amount of solution to be used during a 1-day period. Reduced visual activity but not efficacy will result from the use of leftover solution.

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL SEDIMENT IS USED AS A CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS AND DITCHES THAT IS VISIBLY MUDDY OR MURKY.

Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### 6.1 Tank-Mixing

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum or an alternate mode of action. Read and follow all individual product labels, supplemental labeling and Fact Sheets for all products in the tank mixture and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions and use according to the most restrictive precautionary statements for each product in the tank mixture. Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

Buyer and all users are responsible for any and all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly specified on this label. Mixing this product with herbicides or other materials not specified on this label may result in reduced performance.

### 6.2 Procedure for Preparing Spray Solution

Use the following procedure to mix this product in water alone or when preparing tank mixtures with other labeled products.

1. Place a 20- to 35-mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. Add Roundup QuikPRO herbicide using a circular motion while pouring.
4. If second product is a wettable powder, first make a slurry with the water carrier, then add the slurry SLOWLY through the screen into the tank. Continue agitation.
5. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
7. Continue filling the spray tank with water and add water soluble liquids near the end of the filling process.

When tank mixing this product with other products, maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Use a screen size in nozzle or line strainers no finer than 50-mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

## 6.3 Mixing for Hand-Held Sprayers

Prepare the desired volume of spray solution by adding the amount of this product as shown in the following table to a clean, empty sprayer. Add the appropriate amount of water and stir or agitate to ensure dissolution of this product. For best results when using backpack sprayers, mix the labeled amount of this product with the specified volume of water in a larger container. Fill sprayer with the mixed solution.

### Spray Solution

Desired Volume	Amount of Roundup QuikPRO herbicide			
	Annuals	Perennials	Brush	Low-Volume Directed
1 Gal	1.2 oz	1.5 oz	1.5 oz	4.0 oz to 8.0 oz
3 Gal	3.6 oz	4.5 oz	4.5 oz	12.0 oz to 1.5 lb
10 Gal	12.0 oz	15.0 oz	15.0 oz	2.5 lb to 5.0 lb

## 6.4 Colorants or Dyes

Colorants or marking dyes may be added to this product; however, they can reduce product performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's directions. Certain blue dyes are not stable in the spray solution in the presence of this product. A jar test to determine if the desired blue dye is stable is recommended. If stability is a problem consider switching to an alternate color dye.

## 6.5 Drift Control Additives

Drift control additives may be used with all equipment types. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

### SPRAY DRIFT MANAGEMENT

**AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS.**

Avoiding spray drift at the application site is the responsibility of the applicator and grower. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

**Do not apply this product by air.**

Do not apply this product through any type of irrigation system.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to desirable plants or other areas on which treatment was not intended.

**APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.**

## 7.1 Ground Broadcast Equipment

Use the labeled rates of this product in 10 to 80 gallons of water per acre as a broadcast spray unless otherwise specified on this label or in separate supplemental labeling or Fact Sheets published for this product. As the density of weeds increases, increase the spray volume within the labeled range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat-fan nozzles. Check for even distribution of spray droplets.

## 7.2 Backpack or Hand-Held Equipment

Apply to foliage of vegetation to be controlled on a spray-to-wet basis; do not spray to the point of runoff. For best results, ensure that spray coverage is uniform and complete. Use coarse sprays only.

For control of weeds listed in the Annual Weeds section of the WEEDS CONTROLLED section, apply 1.2 ounces of this product per 1 gallon of spray solution. See table in Mixing for Hand-Held Sprayers section for larger mixing volumes.

For best results, use 1.5 ounces of this product per 1 gallon of spray solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle. See table in Mixing for Hand-Held Sprayers section for larger mixing volumes.

For low-volume directed spray applications, use 4.0 to 8.0 ounces of this product per 1 gallon of spray solution for control or partial control of brush weeds. See table in Mixing for Hand-Held Sprayers section for larger mixing volumes. Ensure spray coverage is uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of brush and tree seedlings when foliage is thick and dense, or where there are multiple sprouts.

## 7.3 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount stated in this label when applied by conventional broadcast equipment. For vehicle mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For hand-held CDA units, apply a solution of 1.5 to 2.0 pounds of this product in one gallon of water at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mile per hour.

CDA equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

## 8.0 SITE AND USE INSTRUCTIONS

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and brush weeds and tree seedlings tables.

## 8.1 Non-crop Areas and Industrial Sites

Use in non-crop areas only: airports, apartment complexes, commercial sites, Conservation Reserve Program (CRP), ditch banks, driveways, dry ditches, dry canals, fencerows, golf courses, industrial sites, landscape areas, lumberyards, manufacturing sites, municipal sites, natural areas, office complexes, ornamental landscapes, parks, parking areas, recreational areas, residential areas, rights-of-way, roadsides, schools, sports complexes, storage areas, warehouse areas, and wildlife management areas.

This product is not for use on crops, timber, other plants being grown for sale, other commercial use, or for commercial seed production. This product is not for research purposes.

Weed Control, Trim-and-Edge and Bare Ground

Use this product in non-crop areas. Apply with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation, and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects. This product is not for use on plants grown for sale or other commercial use, or for commercial seed production.

Repeated applications of this product may be used as weeds emerge to maintain bare ground.

When a tank mixture with a generic active ingredient, such as 2,4-D or pendimethalin is described in this label, the user is responsible for ensuring that the specific application being made is included on the label of the specific product being used in the tank-mixture.

This product may be tank-mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

BANVEL	PENDULUM 3.3 EC
BARRICADE 65WG	PENDULUM WDG
CERTAINTY®	RONSTAR 50 WP
DIMENSION 4 EC	SURFLAN
ENDURANCE	2,4-D
PENDIMETHALIN	

When applied as a tank mixture for bare ground, Roundup QuikPRO herbicide provides control of the emerged annual weeds and control or partial control of emerged perennial weeds.

### Dormant Turfgrass

Use this product to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup. This product is not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

Apply 5 to 16 ounces of this product per acre. Apply the labeled rates in 10 to 80 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 9 ounces per acre may result in injury or delayed greenup in highly maintained areas, golf courses and lawns.

### Turfgrass Renovation (Except for Commercial Sod Farms)

This product controls most existing vegetation prior to renovating turfgrass areas. This product is not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. Do not use this product for renovation of bermudagrass or kikuyugrass sods. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Delay tillage or renovation techniques such as vertical mowing, coring or slicing for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass.

Do not feed or graze treated turfgrass or feed treated thatch to livestock.

## 8.2 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. Apply this product with any application equipment described in this label. Use this product to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation or to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the Non-Crop Areas and Industrial Sites section apply to park and recreational areas. This product is not for use around plants being grown for sale or other commercial use.

## 9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the range when weed growth is heavy or dense or weeds are growing in an undisturbed (non-cultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for rates to control annual and perennial weeds. For difficult to control perennial weeds and where plants are growing under stressed conditions, or where infestations are dense, this product may be used at up to 12.25 pounds per acre for enhanced results.

### 9.1 Annual Weeds

Use 2.25 to 4.5 pounds per acre of this product as a broadcast spray to control annual weeds. When using rates less than 4.5 pounds per acre, the level of fast-burn symptomology may be reduced.

For spray-to-wet applications, apply 1.2 ounces of this product per 1 gallon of spray solution.

#### WEED SPECIES

Anoda, spurred	Field pennycress*
Barley*	Filaree
Barnyardgrass*	Fleabane, annual*
Bassia, fivehook	Fleabane, hairy
Bittercress*	( <i>Conyza bonariensis</i> )*
Black nightshade*	Fleabane, rough*
Bluegrass, annual*	Florida pusley
Bluegrass, bulbous*	Foxtail*
Brome, downy*	Goatgrass, jointed*
Brome, Japanese*	Goosegrass
Browntop panicum*	Grain sorghum (milo)*
Buttercup*	Groundsel, common*
Carolina foxtail*	Hemp sesbania
Carolina geranium	Henbit
Castor bean	Horseweed/Marestail
Cheatgrass*	( <i>Conyza canadensis</i> )
Cheeseweed	Itchgrass*
( <i>Malva parviflora</i> )	Johnsongrass, seedling
Chervil*	Junglerice
Chickweed*	Knotweed
Cocklebur*	Kochia
Copperleaf, hophornbeam	Lambsquarters*
Corn*	Little barley*
Corn speedwell*	London rocket*
Crabgrass*	Mayweed
Dwarf dandelion*	Medusahead*
Eastern manna grass*	Morningglory ( <i>Ipomoea spp.</i> )
Eclipta*	Mustard, blue*
Fall panicum*	Mustard, tansy*
Falsedandelion*	Mustard, tumble*
Falseflax, smallseed*	Mustard, wild*
Fiddleneck	Oats

Pigweed*	Speedwell, purslane*
Plains/tickseed coreopsis*	Sprangletop*
Prickly lettuce*	Spurge, annual
Purslane, common	Spurge, prostrate*
Ragweed, common*	Spurge, spotted*
Ragweed, giant	Spurry, umbrella*
Red rice	Starthistle, yellow
Russian thistle	Stinkgrass*
Rye*	Sunflower*
Ryegrass*	Teaweed/Prickly sida
Sandbur, field*	Texas panicum*
Shattercane*	Velvetleaf
Shepherd's-purse*	Virginia copperleaf
Sicklepod	Virginia pepperweed*
Signalgrass, broadleaf*	Wheat*
Smartweed, ladythumb*	Wild oats*
Smartweed, Pennsylvania*	Witchgrass*
Sowthistle, annual	Woolly cupgrass*
Spanishneedles	Yellow rocket

\*When using field broadcast equipment (boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled. Applications must be made using 10 to 80 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

### 9.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the range.

Use 4.5 to 9.0 pounds per acre of this product as a broadcast spray to control perennial weeds. When using rates less than 9.0 pounds per acre, the level of fast-burn symptomology may be reduced.

For spray-to-wet applications, apply 1.5 ounces of this product per 1 gallon of spray solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

When using hand-held equipment for low-volume directed spot treatments, apply 4.0 to 8.0 ounces of this product per 1 gallon of spray solution.

Allow 7 or more days after application before tillage.

#### WEED SPECIES

Alfalfa*	Johnsongrass
Alligatorweed*	Kikuyugrass*
Anise (fennel)	Knapweed
Bahiagrass	Lantana
Beachgrass, European	Lespedeza
( <i>Ammophila arenaria</i> )	Milkweed, common
Bentgrass*	Muhly, wirestem
Bermudagrass*	Mullein, common
Bermudagrass, water	Napiergrass
(knotgrass)	Nightshade, silverleaf
Bindweed, field	Nutsedge, purple, yellow
Bluegrass, Kentucky	Orchardgrass
Blueweed, Texas	Pampasgrass
Bromegrass, smooth	Paragrass
Bursage, woolly-leaf	Pepperweed, perennial
Canarygrass, reed	Phragmites*
Cattail	Poison hemlock
Clover, red, white*	Quackgrass
Cogongrass	Redvine*
Dallisgrass	Reed, giant
Dandelion	Ryegrass, perennial
Dock, curly	Spurge, leafy*
Dogbane, hemp	Thistle, artichoke
Fescue	Thistle, Canada
Fescue, tall	Timothy
German ivy	Torpedograss*
Guineagrass	Trumpet creeper*
Horseneettle	Vaseygrass
Horseradish	Velvetgrass
Iceland	Wheatgrass, western
Jerusalem artichoke	

\*Partial Control

### 9.3 Brush Weeds and Tree Seedlings

Best results are obtained when brushweeds are treated when they are in the seedling stage of growth. In many situations, retreatment is required on larger plants. Under these conditions, use the higher application rate within the range.

Use 9.0 pounds per acre of this product as a broadcast spray to control brush weeds.

For spray-to-wet applications, apply 1.5 ounces of this product per 1 gallon of spray solution. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

When using hand-held equipment for low-volume directed spot treatments, apply 4.0 to 8.0 ounces of this product per 1 gallon of spray solution.

Allow 7 or more days after application before tillage.

**WEED SPECIES**

Alder	Oak, southern red
Ash*	Oak, white*
Beech*	Peppertree,
Birch	Brazilian
Blackberry	(Florida holly)*
Blackgum	Pine
Cherry; bitter,	Poison ivy*
black, pin	Poison oak*
Dogwood*	Poplar, yellow*
Elderberry	Redbud, eastern
Elm*	Rose, multiflora
Honeysuckle	Saltcedar*
Locust, black*	Sumac; laurel, poison,
Maple, red	smooth, sugarbush,
Maple, sugar	winged*
Oak, black*	Sweetgum
Oak, northern pin	Vine maple*
Oak, post	Virginia creeper
Oak, red	Waxmyrtle, southern*
Oak, scrub*	

\*Partial Control

EPA Reg. No. 524-535

In case of an emergency involving this product,  
Call Collect, day or night, (314) 694-4000.

Packed for:  
MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI, 63167 U.S.A.  
© 2011  
120810



## 10.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company to the extent consistent with applicable law, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Certainty, Roundup QuikPRO, and Monsanto and Vine Design are trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners.

Product of Brazil, formulated in the U.S. with U.S. Ingredients.

# SAFETY DATA SHEET



## ROUNDUP QUIKPRO™ HERBICIDE

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### 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 Environmental Science A division of Bayer CropScience LP 5000 Centregreen Way, Suite 400 Cary, NC 27513 USA
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Responsible Department	Email: SDSINFO.BCS-NA@bayer.com
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#### Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
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Product Information Telephone Number	1-800-331-2867
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### 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.

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### 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

Hazardous Component Name	CAS-No.	Concentration % by weight
Ammonium salt of glyphosate	114370-14-8	73.3
Diquat dibromide	85-00-7	2.9
Polyether modified trisiloxane	134180-76-0	14.1

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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.
<b>Skin contact</b>	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.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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.



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### 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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Oxides of phosphorus

#### Advice for firefighters

**Special protective equipment 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** Not applicable

**Auto-ignition temperature** No data available

**Lower explosion limit** Not applicable

**Upper explosion limit** Not applicable

**Explosivity** Not explosive

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### 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.

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**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

Components	CAS-No.	Control parameters	Update	Basis
Diquat dibromide (Inhalable fraction.)	85-00-7	0.5 mg/m <sup>3</sup> (TWA)	03 2014	ACGIH
Diquat dibromide (Respirable fraction.)	85-00-7	0.1 mg/m <sup>3</sup> (TWA)	03 2014	ACGIH
Diquat dibromide	85-00-7	0.5 mg/m <sup>3</sup> (REL)	2010	NIOSH
Diquat dibromide	85-00-7	0.5 mg/m <sup>3</sup> (TWA)	06 2008	TN OEL
Diquat dibromide	85-00-7	0.5 mg/m <sup>3</sup> (TWA PEL)	08 2010	US CA OEL

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(Total dust.)				
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### 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

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	No data available

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<b>Auto-ignition temperature</b>	No data available
<b>Minimum ignition energy</b>	Not applicable
<b>Self-accelarating decomposition temperature (SADT)</b>	No data available
<b>Upper explosion limit</b>	Not applicable
<b>Lower explosion limit</b>	Not applicable
<b>Vapour pressure</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Relative vapour density</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	No data available
<b>Bulk density</b>	0.68 g/ml (bulk density tapped)
<b>Water solubility</b>	soluble
<b>Partition coefficient: n-octanol/water</b>	Glyphosate: log Pow: -2.9 Diquat dibromide: log Pow: -4.6
<b>Viscosity, dynamic</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive
<b>Other information</b>	Further safety related physical-chemical data are not known.

### SECTION 10: STABILITY AND REACTIVITY

#### Reactivity

<b>Thermal decomposition</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

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<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	Galvanised steel, Unlined mild steel
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Skin contact, Eye contact, Inhalation
<b>Immediate Effects</b>	
<b>Eye</b>	May cause mild irritation to eyes.
<b>Skin</b>	Not expected to produce significant adverse effects when recommended use instructions are followed.
<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (Rat) 4,443 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 0.99 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 5,000 mg/kg
<b>Skin corrosion/irritation</b>	Slight irritant effect - does not require labelling. (Rabbit)
<b>Serious eye damage/eye irritation</b>	Moderate eye irritation. (Rabbit)
<b>Respiratory or skin sensitisation</b>	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.

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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

### OSHA

None.

### 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.

## 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:  $\geq$  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

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	The value mentioned relates to the active ingredient diquat dibromide.
<b>Chronic toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)): 12.5 mg/l Exposure time: 21 d The value mentioned relates to the active ingredient glyphosate.
<b>Toxicity to aquatic plants</b>	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.
<b>Biodegradability</b>	Glyphosate: Not rapidly biodegradable Diquat dibromide: Not rapidly biodegradable
<b>Koc</b>	Diquat dibromide: Koc: 2184750
<b>Bioaccumulation</b>	Glyphosate: Bioconcentration factor (BCF) < 1 Does not bioaccumulate. Diquat dibromide: Bioconcentration factor (BCF) 1 Does not bioaccumulate.
<b>Mobility in soil</b>	Glyphosate: Slightly mobile in soils Diquat dibromide: Immobile in soil
<b>Results of PBT and vPvB assessment</b>	
<b>PBT and vPvB assessment</b>	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).
<b>Additional ecological information</b>	No further ecological information is available.
<b>Environmental precautions</b>	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.

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product</b>	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.
<b>Contaminated packaging</b>	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.
<b>RCRA Information</b>	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.



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(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
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#### Environmental

##### CERCLA

Yes

Diquat dibromide	85-00-7
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Listed

#### Clean Water Section 307(a)(1)

None.

#### Safe Drinking Water Act Maximum Contaminant Levels

Yes

Diquat dibromide	85-00-7
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#### EPA/FIFRA Information:

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This chemical is a pesticide product registered 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

#### 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 - 2      Others -

#### HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2      Flammability - 1      Physical Hazard - 2      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:** 10/01/2020

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