SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Diquat Water Weed and Landscape Herbicide
Product use / type: Herbicide
EPA Registration No.: 74530-61-72159
Chemical name / Synonym / active ingredient(s): Diquat dibromide; 6,7-dihydrodipyrido(1,2-a:2',1-c)pyrazinedium dibromide
Manufacturer / Registrant: Agrisel USA, Inc.
P.O. Box 3528
Suwanee, GA 30024
Manufacturer’s Telephone: 1-877-247-4735
Chemical emergencies: 1-800-533-8253 (PERS)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 2A</td>
<td>Serious Eye Damage / Eye Irritation</td>
</tr>
<tr>
<td>Category 2</td>
<td>Skin Corrosion / Irritation</td>
</tr>
<tr>
<td>Category 4</td>
<td>Acute Oral</td>
</tr>
<tr>
<td>Category 2</td>
<td>Acute Inhalation</td>
</tr>
<tr>
<td>Category 1</td>
<td>Skin Sensitization</td>
</tr>
<tr>
<td>Category 3</td>
<td>Specific Target Organ Toxicity – Single Exposure</td>
</tr>
<tr>
<td>Category 1</td>
<td>Specific Target Organ Toxicity – Repeated Exposure</td>
</tr>
</tbody>
</table>

EMERGENCY OVERVIEW

Signal Word: DANGER
Pictograms:

Appearance: Reddish-brown
Physical state: Liquid
Odor: Faint bromide-like

Hazard Statements:
- H330 – Fatal if inhaled.
- H302 – Harmful if swallowed.
- H319 – Causes serious eye irritation.
- H315 – Causes skin irritation.
- H317 – May cause an allergic skin reaction.
- H335 – May cause respiratory irritation.
- H372 – Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements:
- Wash face, hands and any exposed skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Do not breathe fumes, mists, vapors or spray.
- Use only outdoors or in a well-ventilated areas. Wear respiratory protection.
- Wear protective gloves, clothing, eye and face protection.
- Contaminated work clothing should not be allowed out of the workplace.

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs get medical advice. Take off contaminated clothing and wash before reuse.
- IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison control center, doctor or 911. Specific treatment is urgent.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Refer to specific treatment on label and in notes to physician in section 4 of safety data sheet.
- IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists get medical attention.
- Call a POISON CENTER or get medical attention if you feel unwell.
- Store locked up in a cool well-ventilated place. Keep container tightly closed.
- Dispose of contents and container in accordance with local and national regulations at an approved waste disposal plant.

Other Information / Potential Hazards:
Very toxic to aquatic life with long lasting effects.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diquat dibromide; 6,7-dihydrodipyrido(1,2-a:2',1'-c)pyrazinenedibromide</td>
<td>85-00-7</td>
<td>37.3</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>-</td>
<td>62.7</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**If inhaled:**
- Move person to fresh air.
- If person is not breathing, call 911 or get medical help. Give artificial respiration, preferably mouth-to-mouth with the aid of a pocket mask equipped with a one-way valve.
- Call a poison control center or doctor for further treatment advice.

**If in Eyes:**
- Hold eye open and rinse gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

**If on skin or**
- Remove contaminated clothing and shoes.
clothing:
- Rinse skin with plenty of water for 15-20 minutes.
- Call a poison control center or for further treatment advice.

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

Note to Physician:
To be effective, treatment for diquat poisoning must begin IMMEDIATELY. Treatment consists of binding diquat in the gut with suspension of activated charcoal or bentonite clay, administration of cathartics to enhance elimination, and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis.

Note to first-aider:
Have the product label or this Safety Data Sheet with you when calling a poison control center or doctor, or going for treatment.

5. FIRE-FIGHTING MEASURES

Flammable properties: Non-flammable.

Extinguishing media Water spray, alcohol resistant foam, CO₂ dry chemical.

Unsuitable extinguishing media: High pressure water streams.

Firefighting measures: Evacuate area. Use extinguishing media appropriate for surrounding fire. Keep fire-exposed containers cool with water spray. Do not allow contaminated firefighting water and spillage to enter sewers, drains and waterways. Contain run-off water with temporary dike. Prevent use of contaminated buildings, area and equipment until decontamination.

Protective equipment and precautions for firefighters: Wear full protective firefighting gear including self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent).

Hazardous decomposition products: Oxides of: carbon, bromine and nitrogen. May release irritating and toxic vapors due to thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear protective gloves / clothing and eye protection. Refer to section 8 for personal protective equipment. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation. Isolate area and deny entry by unnecessary people. Clean spill immediately.

Environmental precautions: Prevent spillage from contaminating soil or entering
Methods for containment: Contain spill with inert material (e.g. sand, silica gel, universal binder). Clean spills immediately.

Methods for cleanup: Control spill at its source. Soak up entire area with inert absorbent material and sweep or shovel into properly labeled container for disposal. Wash area thoroughly with hard water and detergent. Soak up wash water with additional absorbent and place in disposal container. Seal container and arrange for waste disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breath vapors or spray mists.

Precautions for safe storage: Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Store in a cool, dry place. Store in a well-ventilated area. Keep away from incompatible materials.

Incompatible storage situations: Separate pesticides during storage to prevent cross-contamination of other pesticides, fertilizers, food, and feed. Do not mix or store in metal containers or systems having metal fittings. Store at temperatures above freezing.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Guidelines:

<table>
<thead>
<tr>
<th></th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diquat dibromide</td>
<td>0.5 mg/m³</td>
<td>0.5 mg/m³ TLV-TWA inhalable fraction</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this material. Commercial applicators and/or on-farm applications should refer to the product label for personal protection equipment.

Engineering controls: Ensure adequate ventilation, especially in confined areas. Provide emergency eye wash and/or quick drench shower in the work area.

Personal protective equipment

Eye / face protection: Wear chemical-tight goggles. If splashing is likely wear a full face shield.

Body / skin protection: Long sleeved shirt, long pants, shoes plus socks. A
化学保护：
戴化学防护手套 / 手部保护。

呼吸保护：
如无充分通风，应佩戴 N, R, P 或 HE 型 NIOSH 批准的呼吸器。

工业卫生建议：
在进食、饮水、嚼口香糖、吸烟或使用卫生间前彻底洗手。
使用和清洁 PPE 后立即更换。与其他衣物分开洗涤。遵循制造商的清洁和维护 PPE 的建议。

9. 物理和化学性质

物理状态：
液体

外观：
红褐色

气味：
微弱，类似溴

pH：
4.19 (1% 水溶液)

沸点：
无信息

闪点：
非易燃

相对密度：
1.2 克/毫升 @ 20°C (68°F)

溶于水：
可溶

蒸汽压：
 negligible, < 1 x 10^-8 kPa at 25°C (77°F)

粘度：
1.6 centistokes @ 20°C (68°F)

Log Pow：
-4.6 at 20°C (68°F) Diquat dibromide

10. 稳定性与反应性

反应性 / 化学稳定性：
在正常温度和条件稳定。

条件 / 避免的材料：
产品不应与金属接触。远离热量、火花和火焰。氧化剂。对金属有腐蚀性。

危险分解产物：
碳氧化物、氮氧化物、溴化物、氨和其他有害烟雾。与铝反应可能产生氢气。

危险反应：
在正常使用条件下不预期。

11. 毒理学信息

产品毒性：

急性口服 LD50：
大鼠 LD50：1030 mg/kg
SAFETY DATA SHEET

Diquat Water Weed and Landscape Herbicide

Acute dermal LD₅₀: Rat LD₅₀: >5000 mg/kg
Acute inhalation LC₅₀: Rat 4-hr LC₅₀: 0.056 – 0.53 mg/L
Eye irritation: Mild eye irritation
Skin irritation: Moderate skin irritation
Sensitization: Moderate contact sensitizer.
Carcinogenicity: No component of this product present at 0.1% or greater is listed by IARC, OSHA, NIOSH or NTP.
Target organs: Lungs, Liver, Kidneys

12. ECOLOGICAL INFORMATION

Environmental Hazards: Very toxic to aquatic life with long lasting effects.
Component Ecotoxicity:
Diquat dibromide (85-00-7)
Fish: LC₅₀ Lepomis macrochirus: 13.9 ppm
LC₅₀ Oncorhynchus mykiss: 14.8 ppm
Invertebrate: EC₅₀ Daphnia magna: 0.77 – 1.19 ppm
Avian: LC₅₀ Bobwhite quail: 106 ppm
LC₅₀ Mallard duck: 980 ppm

13. DISPOSAL CONSIDERATIONS

Product disposal: Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State or local procedures. Do not allow pesticide or rinse waters to enter or run off into storm drains, drainage ditches, gutters or surface waters.

Container disposal: Emptied container contains product residue. Observe all labeled safeguards until container is destroyed or disposed. Clean container by triple rinsing promptly after emptying.

14. TRANSPORT INFORMATION

U.S. DOT: UN2927, Toxic liquids, corrosive, organic, n.o.s. (Diquat dibromide), 6.1 (8), PG II
See Section 15 for reportable quantity (RQ).

15. REGULATORY INFORMATION

U.S. Federal Regulations:
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 as required on the pesticide label:

Signal word: WARNING

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Do not breathe spray mist. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

EPA Registration No.: 74530-61
Environmental Hazards

This pesticide is toxic to aquatic invertebrates.

**TSCA:**

All components of this product are listed on or are exempt from listing on the TSCA chemical inventory.

**CLEAN WATER ACT:**

Diquat dibromide; RQ=1000 pounds

**SARA 311/312:**

Acute health; Chronic health

**CERCLA:**

Diquat dibromide; RQ=1000 pounds

**U.S. State Regulations:**

**State Right-to-Know Regulations:**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>NY</th>
<th>LA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
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<tbody>
<tr>
<td>Diquat dibromide</td>
<td>85-00-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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**California Proposition 65:** No components listed.

<table>
<thead>
<tr>
<th>NFPA Ratings</th>
<th>Health</th>
<th>Fire</th>
<th>Instability</th>
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<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
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**16. OTHER INFORMATION**

<table>
<thead>
<tr>
<th>Revision No.:</th>
<th>2.0</th>
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<tbody>
<tr>
<td>Revision Date:</td>
<td>18-May-2015</td>
</tr>
<tr>
<td>Revision Note:</td>
<td>Update to GHS classification and format</td>
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**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; GHS - Global Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Association; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PPE - Personal Protective Equipment; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REL - Recommended Exposure Limit; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

**Other information / Disclaimer**

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which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

End of Safety Data Sheet