Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

Pesticide-Use Permit Application Packet To Apply Pesticides to Water

Part One: Contact Information

APPLICANT (Person, organization, or business applying for this permit)

Organization/business: Eielson Air Force Base, Central Heat and Power Plant

Contact person: Col. Matthew Johnston (Decision maker); John Haddix (Point of Contact)

Mailing address: 2310 Central Ave; ATTN John Haddix

City, State, Zip: Eielson AFB, AK, 99702

Telephone Number: (907) 377-5182

Email Address: John.haddix@us.af.mil

RECEIVED
MAY 01 2026
Pesticide Registration Program

Is the applicant a government entity? 18 AAC 90.620

[X] Yes [ ] No

APPLICATOR (Person, organization, or business who will be applying the pesticides)
MUST BE A CERTIFIED APPLICATOR

Organization/business: Alien Species Control, LLC

Contact person: Tim Stallard

Mailing address: 11361 Mael St

City/State/Zip: Anchorage, AK 99516

Telephone Number: (907) 347-2214

Email Address: Weeds.free.ak@gmail.com

Pesticide Applicator Certification Number 18 AAC 90.515(13): 10901-2605-4/6/9 (will be renewed prior to application)

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✓	#	Part Two: Treatment Location Information
	1	Treatment site location: 18 AAC 90.515(8)(A) Street Address: 2676 Industrial Ave. City: Eielson AFB, AK, 99702 OR For remote areas, fill in an informal location description such as mileposts, landmarks, distance and direction from nearest community, latitude and longitude, UTM coordinates, etc. The address above is for the Eielson AFB Central Heat and Power Plant. The treatment site is the Plant's cooling pond behind the plant to the Southeast. The approximate middle point of the southern lobe of the pond is latitude 64.668959 N and -147.065239 W
	2	Describe treatment site (lake, stream, river, wetland, etc.), including inflow and outflow characteristics, stream flow, etc.: Treatment site is a man-made, 26 surface acre cooling pond for the Eielson AFB Power Plant. Average depth is 16 ft. There are two 'lobes' – the pond is an elongated "U shape. There is no natural inflow other than spring thaw and ground water seepage. In the winter (October – March) there is no outflow from the pond. In the summer (April – September), cooling water for the plant is pumped from ground water wells and heated water is released into the southwestern end of the pond. Water is released from the pond via a weir at the northwest end into a ditch that runs north about a mile before entering French Creek.
	3	List each public or private drinking water system within 200 feet of the treatment area. 18 AAC 90.515(8)(D) None
	4	Approximate size of the treatment area. Please specify units (acre feet, flow rate, etc. The units should match units on the pesticide label): 18 AAC 90.515(8)(B) 26 surface acres; 416 acre feet

✓	#	Part Two: Treatment Location Information
	5	If the treatment location has been identified as habitat for an endangered or threatened species, list each species and category (threatened, endangered). 50 CFR 17.11-12 There are no endangered nor threatened species in or near the treatment location.

✓	#	Part Three: Treatment Information
	1	List the dates & times (or range of dates and times) that pesticide is proposed to be applied: 18 AAC 90.515(9) June to August (1 to 3 applications per year) 2025-2029
	2	Target pest of pesticide project: 18 AAC 90.515(2)

✓	Category	List specific targets
	Fungus	
X	Vegetation	*Ceratophyllum demersum* (Coontail) and other nuisance aquatic vegetation
	Insects	
	Fish	
	Rodents	
	Other	

✓	#	Part Three: Treatment Information
	3	Provide a description of the method of pesticide application, including details about any equipment that will be used. 18 AAC 90.515(10)

Pelleted SonarOne® herbicide (floridone) will be applied with an ATV (granular) fertilizer spreader mounted in a motorboat. An initial SonarOne® application will be made followed by a FasTest 2-3 week later to determine herbicide concentration. If needed, a follow up application of SonarOne® will be made to reach the desired herbicide concentration in the pond. SonarOne® may be applied to the entire pond or as a partial lake treatment to the southern lobe (approximately 13 surface acres) of the pond.

Littora® or Reward® herbicide (diquat) will be applied using a 45-gallon UTV boom sprayer mounted in a motorboat and delivered under water via weighted, trailing hoses.

To ensure even distribution and correct amount of the herbicide in the treatment area, the pond will be mapped in GIS software with each mapped zone (of known area) to receive the correct amount of herbicide. During application, the boat will navigate at a predetermined speed within the mapped areas to apply the correct amount of herbicide calculated for each area.

✓	#	Part Four: Pesticide List
	1	List the common or brand name of **EACH** proposed pesticide and adjuvant. 18 AAC 90.515(1) • Pesticides MUST be registered in the State of Alaska. • Adjuvants MUST be registered in the State of Washington to be considered for use in Alaska. SonarOne® Littora® Reward®
	2	Total number of pesticides and adjuvants listed: 3

To find pesticide products registered in Alaska, search by EPA registration number here:
http://www.kellysolutions.com/ak/pesticideindex.htm

To find adjuvants registered in Washington, search here **http://cru66.cahe.wsu.edu/labels/Labels.php**. *For "Item to search on", select "Crop". For "Common name", select "adjuvant".*

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	1	Common or brand name of proposed pesticide or adjuvant detailed on this sheet: SonarOne®
	2	EPA Registration Number (not applicable for adjuvants): 67690-45
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): Clay pellets
	4	Name of the seller or distributor from whom the pesticide will be obtained: SePro Corporation OR Check here if pesticide is from a previous surplus ☐ 18 AAC 90.515(1)
	5	List each active ingredient (or principal functioning agent) in this product AND its percent composition:
	6	Pesticides: list the adjuvant (if any) it will be mixed with. Adjuvants: list the pesticides it will be mixed with. No adjuvants will be used

Active Ingredient	% composition
Floridone	5%

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
		Product Name: SonarOne® Which treatment scenarios are described in questions 6-8? Application by granular fertilizer spreader mounted in a boat
	7	If this product will be diluted prior to application to the water body, specify the rate of dilution as it will be applied for this project: 18 AAC 90.515(6) Not applicable – product won't be diluted [X] **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): Amount of diluent (list units): Example: 3 oz product / 1 gallon water
	8	Rate of application that will be used for this project: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 78 pounds per Surface acre On which page of the label is this application rate found? 9 and 10 Examples: 15 gallons per acre/foot; 6 lbs per 1000 gallon; Spray to wet

✓	#	**Part Five: Product Information** For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	9	Total amount of product that will be applied to the treatment site for each application: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS**

Application Rate (from Part 5, Question 7)		Application Area Size (from Part 2, Question 4)	=	Total Volume
78	*	26	=	2,028 lbs

Example:	15 gallons/acre-foot	*	100 acre-feet	=	1500 gallons
	6 lbs/1,000 gallons	*	2,000 gallons	=	12 lbs

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	1	Common or brand name of proposed pesticide or adjuvant detailed on this sheet: Littora®
	2	EPA Registration Number (not applicable for adjuvants): 67690-53
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): liquid
	4	Name of the seller or distributor from whom the pesticide will be obtained: SePro Corporation OR Check here if pesticide is from a previous surplus ☐ 18 AAC 90.515(1)
	5	List each active ingredient (or principal functioning agent) in this product AND its percent composition:
	6	Pesticides: list the adjuvant (if any) it will be mixed with. Adjuvants: list the pesticides it will be mixed with. No adjuvants will be used

Active Ingredient	% composition
Diquat dibromide	37.3%

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
		Product Name: Littora® Which treatment scenarios are described in questions 6-8? Subsurface application by boom sprayer with trailing hoses mounted in a boat
	7	If this product will be diluted prior to application to the water body, specify the rate of dilution as it will be applied for this project: 18 AAC 90.515(6) Not applicable – product won't be diluted ☐ **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 208 gallons Amount of diluent (list units): 208 to 634 gallons water Example: 3 oz product / 1 gallon water
	8	Rate of application that will be used for this project: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 8 gallons (0.5 gal per 1 ft of depth) per Surface acre On which page of the label is this application rate found? 4 Examples: 15 gallons per acre/foot; 6 lbs per 1000 gallon; Spray to wet

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	9	Total amount of product that will be applied to the treatment site for each application: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS**

Application Rate (from Part 5, Question 7)		Application Area Size (from Part 2, Question 4)	=	Total Volume
8 gallons/ surface acre	*	26 surface acres	=	208 gallons

Example					
	15 gallons/acre-foot	*	100 acre-feet	=	1500 gallons
	6 lbs/1,000 gallons	*	2,000 gallons	=	12 lbs

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	1	Common or brand name of proposed pesticide or adjuvant detailed on this sheet: Reward®
	2	EPA Registration Number (not applicable for adjuvants): 100-1091
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): liquid
	4	Name of the seller or distributor from whom the pesticide will be obtained: Syngenta OR Check here if pesticide is from a previous surplus ☐ 18 AAC 90.515(1)

✓	#	**Part Five: Product Information** For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	5	List each active ingredient (or principal functioning agent) in this product AND its percent composition: Active Ingredient: Diquat dibromide — % composition: 37.3%
	6	Pesticides: list the adjuvant (if any) it will be mixed with. Adjuvants: list the pesticides it will be mixed with. No adjuvants will be used
		Product Name: Reward Which treatment scenarios are described in questions 6-8? Subsurface application by boom sprayer with trailing hoses mounted in a boat

✓	#	**Part Five: Product Information** For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	7	If this product will be diluted prior to application to the water body, specify the rate of dilution as it will be applied for this project: 18 AAC 90.515(6) Not applicable – product won't be diluted ☐ **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 208 gallons Amount of diluent (list units): 208 to 624 gallons water Examples: 3 oz product / 1 gallon water
	8	Rate of application that will be used for this project: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 8 gallons (2 gal/ 4 ft of depth) per Surface acre On which page of the label is this application rate found? 13 Examples: 15 gallons per acre-foot; 6 lbs per 1000 gallon; Spray to wet

✓	#	**Part Five: Product Information** For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6)
	9	Total amount of product that will be applied to the treatment site for each application: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS**

Application Rate (from Part 5, Question 7)		Application Area Size (from Part 2, Question 4)	=	Total Volume
8 gallons/ surface acre	*	26 surface acres	=	208 gallons

Example					
15 gallons/acre-foot	*	100 acre-feet	=	1500 gallons
6 lbs/1,000 gallons	*	2,000 gallons	=	12 lbs

✓	#	Part Six: Storage and Disposal — 18 AAC 90.615
	1	List the location where pesticide will be stored prior to final disposal. Physical Address: 2310 Central Ave City, State, Zip: Eielson AFB, AK 99702
	2	Describe how and where excess mixed pesticides and adjuvants will be disposed: Not applicable for SonarOne®, which will be applied without dilution. There will be no excess mixed pesticides). Littora® or Reward® will be diluted in the spray tank on the boat. The application will be made at a rate below the maximum label rate and/or as a partial lake treatment, so that all mixed pesticides can be applied in the designated treatment area with no excess leftover.
	3	Describe how and where empty pesticide and adjuvant containers will be disposed: Containers will be triple rinsed, punctured to prevent reuse, and offered for recycling or disposed in the Fairbanks Solid Waste Facility.
	4	If excess material or empty containers will be disposed in a landfill, provide the following information: Facility Name: Fairbanks Solid Waste Facility City, State, Zip: Fairbanks, AK 99701 Date when disposal site was contacted to confirm acceptance of materials: 1/30/25

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Please provide EACH required item in a separate, stand-alone document.
Check off each item that is attached. Some items may not be applicable; if so, check the N/A column.

Part Seven: Supporting Documentation

✓	#	N/A	Item
☒	1.	Required	Justification for the pesticide application - why you need to apply a pesticide and the benefits you expect to achieve from the treatment.
☒	2.	Required	Map that shows the location of the treatment area within the state of Alaska. Map must be issued by the United States (e.g USGS), the State, or the Municipality.
☒	3.	Required	Maps and/or aerial photos that show details within the treatment area, included areas where pesticides will be applied. Map/photo must include a scale to show distances.
	4.	N/A	Map and/or aerial photo that shows the treatment area and the location of all sources of drinking water within 200 feet of the treatment area. Map/photo must include a scale to show distances.
☒	5.	Required	EPA approved label for each proposed pesticide and adjuvant to be used.
☒	6.	Required	Material Safety Data Sheet for each proposed pesticide and adjuvant to be used.
☒	7.	Required	Description of potential impacts to the environment and non-target plants and animals including invertebrates. Should address any potential impacts to biodiversity and distribution of species, potential for anoxia due to plant decomposition, impact to the overall ecological health of the water body, and any other expected impacts.
☒	8.	Required	Description of precautions planned to protect human health, safety, welfare, animals, and the environment.
	9.	N/A	Proof of liability insurance (for non-government applicants)
	10.	N/A	Information about how the proposed pesticide application might affect any threatened or endangered species that may be found in or near treatment area, and any proposed measures to prevent or reduce impacts.
☒	11.	Required	Documentation of compliance with APDES permit requirements (see instructions on page 1).

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Part Eight: Signatures

All applications must be signed as follows, per 18 AAC 15.030:

- **Corporations**: A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation
- **Partnerships**: A general partner
- **Sole proprietorship**: The proprietor
- **Municipal, state, federal, or other public entity**: A principal executive officer, ranking elected official, or duly authorized employee

I, Matthew R. Johnston, Colonel, USAF certify under penalty of perjury, that all of the information And exhibits in this application and attached documentation are true, accurate, and complete.

JOHNSTON.MATTHEW.R.1164093936 Digitally signed by JOHNSTON.MATTHEW.R.1164093936 Date: 2026.04.20 14:39:43 -08'00'

Applicant's Signature

April - 15 - 2026

Month Day Year

Commander, Eielson AFB

Applicant's Title

Attachment 1 – Justification for the pesticide application

Eielson AFB, Central Heat and Power Plant (CHPP) – Cooling Pond

Why the application of pesticide is needed and the benefits expected:

The Air Force's mission and operations at Eielson AFB are an important part of our national defense. The Central Heat and Power Plant (CHPP) at Eielson AFB is essential to keeping the lights on and buildings warm at this subarctic installation.

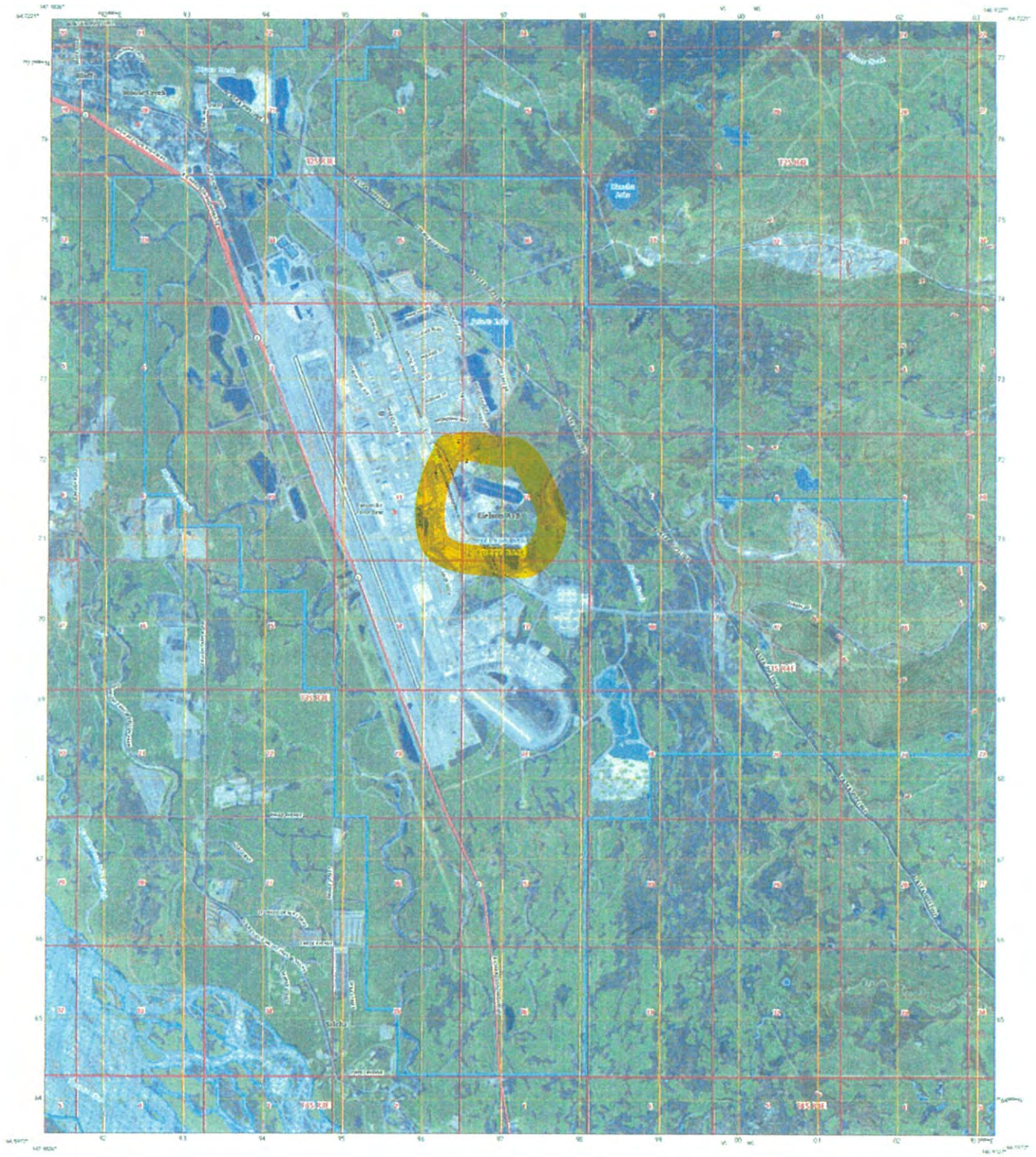
The Eielson Central Heat and Power Plant requires the uninterrupted flow of cooling water to regulate operating temperatures at the plant. In other words, the flow of cooling water is critical to the safe operation of the CHPP.

However, heavy growth of nuisance aquatic vegetation (including coontail and other native plant species) is clogging the intake screens where cooling water is drawn into the plant.

Aquatic herbicide (pesticide) application is needed to greatly reduce the volume of plant growth to protect the flow of cooling water to the power plant.

The expected benefits of the pesticide application are eliminating or greatly reducing the amount of plant material that contacts the cooling water intake screens. The result would be no more clogged intake screens and much more reliable flow of cooling water into the CHPP.

Attachment 2 - USGS Map with project location



Attachment 3 - Aerial image of project area

Cooling Pond for Eielson AFB Central Heat and Power Plant (CHPP)

Pesticide will be applied from a boat to the 26 surface acre Cooling Pond.
A partial lake treatment may be made to the southern lobe of the cooling pond.

0 0.03 0.06 0.11 Miles

Attachment 4 – Not Applicable

- No drinking water sources within 200 ft of treatment area

Attachment 5A - product label for SonarOne

SePRO

Specimen Label

SonarOne®

FLURIDONE	GROUP	12	HERBICIDE

An herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, potable water sources, drainage canals, irrigation canals and rivers.

Active Ingredient

Fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(1*H*)-pyridinone 5.0%
Other Ingredients 95.0%
TOTAL 100.0%
Contains 0.05 pound active ingredient per pound of product.

Keep Out of Reach of Children

CAUTION / PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail).

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or docto • Do not give anything by mouth to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15 to 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 **clothing**	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person 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 poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call **INFOTRAC** at **1-800-535-5053**.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful If Swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear.

ENGINEERING CONTROLS (AIRCRAFT)

Aircraft pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides 40 CFR 170.305.*
*Not for use in California.

ENVIRONMENTAL HAZARDS

Do not apply to water except as specified on the label. Do not contaminate water outside the intended treatment area by disposal of equipment washwaters. Do not apply in tidal saltwater. Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire treatment site, for example, shallow shoreline areas. Trees and shrubs growing in water treated with this product may occasionally develop chlorosis. Follow use directions carefully so as to minimize adverse effects on non-target organisms.

Non-Target Organisms Advisory Statement

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize drift.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Read all *Directions for Use* carefully before applying.

PRODUCT INFORMATION

SonarOne herbicide is a selective systemic aquatic herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals, irrigation canals, and rivers. This product is a pelleted formulation containing 5% fluridone. It is absorbed from water by plant shoots and from hydrosoil by the roots of aquatic vascular plants. It is important to maintain this product in contact with the target plants for as long as possible. Rapid water movement or any condition which results in rapid dilution of this product in treated water will reduce its effectiveness. In susceptible plants, this product inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight.

Herbicidal symptoms of SonarOne appear in 7 - 10 days and appear as white (chlorotic) or pink growing points. Under optimum conditions 30 - 90 days are required before the desired level of aquatic weed management is achieved. Species susceptibility to this product may vary depending on time of year, stage of growth and water movement. For best results, apply this product prior to initiation of weed growth or when weeds begin active growth.

Application to mature target plants may require an application rate at the higher end of the specified rate range and may take longer to control.
SonarOne is not corrosive to application equipment.

This label provides recommendations on the use of a chemical analysis for the active ingredient. SePRO Corporation recommends the use of High-Performance Liquid Chromatography (HPLC) for the determination of the active ingredient concentration in the water. Contact SePRO Corporation to incorporate this test, known as a FasTEST, into your treatment program. Other proven chemical analyses for the active ingredient may also be used. The FasTEST is referenced in this label as the preferred method for the rapid determination of the concentration of the active ingredient in the water.

Application rates are provided in pounds of SonarOne to achieve a desired concentration of the active ingredient in part per billion (ppb). **The maximum application rate or sum of all application rates is 90 ppb in ponds and 150 ppb in lakes and reservoirs per annual growth cycle.** This maximum concentration is the amount of product calculated as the target application rate, NOT determined by testing the concentrations of the active ingredient in the treated water.

Weed Resistance Management
For resistance management, SonarOne is a Group 12 herbicide. Any weed population may contain or develop plants naturally resistant to SonarOne and other Group 12 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of SonarOne or other Group 12 herbicides within a growing season or among growing seasons with different herbicide groups that control the same weeds.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or pest control advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the desirable plants and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

- Contact your sales representative, pest control advisors, or local extension specialist for additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of plants and weed biotypes.

Use Restrictions

- **Obtain Required Permits:** Consult with appropriate state or local water authorities before applying this product to public waters. Permits and/or posting treatment notification may be required by state or local public agencies.
- **New York State:** Application of SonarOne is not permitted in waters less than two (2) feet deep, except as permitted under FIFRA Section 24(c), Special Local Need registration.
- **Hydroponic Farming:** Do not use water from a Sonar-treated area for hydroponic farming unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - A FasTEST has been run and the concentration in water at the intake is less than 1 ppb; or
  - A filtration or water treatment process following water intake has been verified analytically to reduce the concentration in potential irrigation water below 1 ppb.
- **Greenhouse and Nursery Plants:** Do not use water from a Sonar-treated area for greenhouse and nursery irrigation unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - For the irrigation of woody ornamental plants, a FasTEST has been run and the concentration at the intake is less than 5 ppb; or
  - For the irrigation of other greenhouse or nursery plants, the concentration is confirmed less than 1 ppb; or
  - A filtration or water treatment process following water intake has been verified analytically to reduce the concentration in potential irrigation water below either the 1 or 5 ppb levels cited above.
- **Water Use Restrictions Following Application with SonarOne (Days)**

Application Rate	Drinking†	Fishing	Swimming	Livestock/Pet Consumption	Irrigation††
Maximum Rate (150 ppb) or less	0	0	0	0	See irrigation instructions below

† Note below, under *Potable Water Intakes*, the information for application of this product within ¼ miles (1,320) feet of a functioning potable water intake.

†† Note below, under *Irrigation*, specific time frames or fluridone concentrations that provide the widest safety margin for irrigating with fluridone treated water.

- **Potable Water Intakes:** Concentrations of the active ingredient fluridone up to 150 ppb are allowed in potable water sources; however, in lakes and reservoirs or other sources of potable water, do not apply this product at application rates greater than 20 ppb within one-fourth (1/4) mile (1,320 feet) of any functioning potable water intake. At application rates of 8 - 20 ppb, this product may be applied within ¼ mile where functioning potable water intakes are present. **NOTE: Existing potable water intakes which are no longer in use, such as those replaced by connections to potable water wells or a municipal water system, are not considered to be functioning potable water intakes.**

- Aircraft pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides 40 CFR 170.305.*
  *Not for use in California.

Use Precautions

- **Irrigation:** Irrigation with treated water may result in injury to the irrigated vegetation. Follow these precautions and inform those who irrigate from areas treated with SonarOne of the irrigation time frames or water FasTEST requirements presented in the table below. Follow the following time frames and FasTEST directions to reduce the potential for injury to vegetation irrigated with treated water. Greater potential for crop injury occurs where treated water is applied to crops grown on low organic and sandy soils.

Application Site	Days After Application		
	Established Tree Crops	Established Row Crops/ Turf/Plants	Newly Seeded Crops/Seedbeds or Areas to be Planted Including Overseeded Golf Course Greens
Ponds and Static Canals †	7	30	FasTEST required
Canals	7	7	FasTEST required
Rivers	7	7	FasTEST required
Lakes and Reservoirs ††	7	7	FasTEST required

† For purposes of SonarOne labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10 acres.

†† In lakes and reservoirs where one-half or greater of the body of water is treated, use the pond and static canal irrigation precautions.

Where the use of SonarOne treated water is desired for irrigating crops prior to the time frames established above, use the FasTEST to measure the concentration in the treated water. Where a FasTEST has determined that concentrations are less than 10 parts per billion, there are no irrigation precautions for irrigating established tree crops, established row crops or turf. **For tobacco, tomatoes, peppers or other plants within the Solanaceae Family and newly seeded crops or newly seeded grasses such as overseeded golf course greens, do not use treated water if concentrations are greater than 5 ppb; furthermore, when rotating crops, do not plant members of the Solanaceae family in land that has been previously irrigated with fluridone concentrations in excess of 5 ppb. It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation of these sites.**

PLANT CONTROL INFORMATION

SonarOne selectivity is dependent upon dosage, time of year, stage of growth, method of application, and water movement. The following categories: controlled, partially controlled, and not controlled, are provided to describe expected efficacy under ideal treatment conditions using higher to maximum label rates. Use of lower rates will increase selectivity of some species listed as controlled or partially controlled. Additional aquatic plants may be controlled, partially controlled, or tolerant to this product. It is recommended to consult a SePRO Aquatic Specialist prior to application of this product to determine a plant's susceptibility to SonarOne. **NOTE: algae (chara, nitella, and filamentous species) are not controlled by SonarOne.**

Attachment 5A - product label for SonarOne

Vascular Aquatic Plants Controlled

Submersed Plants:

bladderwort (*Utricularia* spp.)
common coontail (*Ceratophyllum demersum*) †
common Elodea (*Elodea canadensis*) †
egeria, Brazilian Elodea (*Egeria densa*)
fanwort, Cabomba (*Cabomba caroliniana*)
hydrilla (*Hydrilla verticillata*)
naiad (*Najas* spp.)
pondweed (*Potamogeton* spp., except Illinois pondweed) †
watermilfoil (*Myriophyllum* spp. except variable-leaf milfoil)

Floating Plants:

salvinia (*Salvinia* spp.)
duckweed (*Lemna*†, *Spirodela*†, and *Landoltia* spp.)
mosquito fern (*Azolla caroliniana*) †

Shoreline Grasses:

paragrass (*Urochloa mutica*)

† Native plants that are often tolerant to fluridone at lower use rates. Please consult a SePRO Aquatic Specialist for recommended SonarOne use rates (not to exceed maximum labeled rates) when selective control of exotic species is desired.

Vascular Aquatic Plants Partially Controlled

Submersed Plants

Illinois pondweed (*Potamogeton illinoensis*)
limnophila (*Limnophila sessiliflora*)
tapegrass, American eelgrass (*Vallisneria americana*)
watermilfoil--variable-leaf (*Myriophyllum heterophyllum*)

Emersed Plants

alligatorweed (*Alternanthera philoxeroides*)
American lotus (*Nelumbo lutea*)
cattail (*Typha* spp.)
creeping waterprimrose (*Ludwigia peploides*)
parrotfeather (*Myriophyllum aquaticum*)
smartweed (*Polygonum* spp.)
spatterdock (*Nuphar luteum*)
spikerush (*Eleocharis* spp.)
waterlily (*Nymphaea* spp.)
waterpurslane (*Ludwigia palustris*)
watershield (*Brasenia schreberi*)

Shoreline Grasses

barnyardgrass (*Echinochloa crusgalli*)
giant cutgrass (*Zizaniopsis miliacea)*
reed canarygrass (*Philaris arundinaceae*)
southern watergrass (*Hydrochloa caroliniensis*)
torpedograss (*Panicum repens*)

Vascular Aquatic Plants Not Controlled

Emersed Plants:

American frogbit (*Limnobium spongia*)
arrowhead (*Sagittaria* spp.)
bacopa (*Bacopa* spp.)
big floatingheart, banana lily (*Nymphoides aquatica*)
bulrush (*Scirpus* spp.)
pickerelweed, lanceleaf (*Pontederia* spp.)
rush (*Juncus* spp.)
water pennywort (*Hydrocotyle* spp.)

Floating Plants:

floating waterhyacinth (*Eichhornia crassipes*)
waterlettuce (*Pistia stratiotes*)

Shoreline Grasses:

maidencane (*Panicum hemitomon)*

NOTE: Algae (chara, nitella, and filamentous species) are not controlled by SonarOne.

APPLICATION DIRECTIONS

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to SonarOne. It is important to determine the area (acres) to be treated and the average depth in order to select the proper application rate. Do not exceed the maximum labeled rate for a given treatment site per annual growth cycle.

Application to Ponds

SonarOne may be applied to the entire surface area of a pond. For single applications, rates may be selected to provide 30 - 90 ppb to the treated water, although actual concentrations in treated water may be substantially lower at any point in time due to the slow-release formulation of this product. When treating for optimum selective control, lower rates may be applied for sensitive target species. Use the higher rate within the rate range where there is a dense weed mass, when treating more difficult to control species, and for ponds less than 5 acres in size with an average depth less than 4 feet. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation—Ponds, Lakes and Reservoirs* section of this label. Split or multiple applications may be used where dilution of treated water is anticipated; however, the sum of all applications should total 30 - 90 ppb and must not exceed a total of 90 ppb per annual growth cycle.

Attachment 5A - product label for SonarOne

Average Water Depth of Treatment Site (feet)	Pounds of SonarOne per Treated Surface Acre	
	45 ppb	90 ppb
1	2.5	5.0
2	5.0	10.0
3	7.5	15.0
4	10.0	20.0
5	12.5	25.0
6	15.0	30.0
7	17.0	34.0
8	19.5	39.0
9	22.0	44.0
10	24.5	49.0

Application to Lakes and Reservoirs

The following treatments may be used for treating both whole lakes or reservoirs and partial areas of lakes or reservoirs (bays, etc.). For best results in treating partial lakes and reservoirs, SonarOne treatment areas should be a minimum of 5 acres in size. Treatment of areas smaller than 5 acres or treatment of narrow strips such as boat lanes or shorelines may not produce satisfactory results due to dilution by untreated water. Rate ranges are provided as a guide to include a wide range of environmental factors, such as target species, plant susceptibility, selectivity and other aquatic plant management objectives. Application rates and methods should be selected to meet the specific lake/reservoir aquatic plant management goals.

NOTE: In treating lakes or reservoirs that contain potable water intakes and where the application requires treating within one-fourth (¼) mile of a potable water intake, no single application can exceed 20 ppb. Additionally, the sum of all applications must not exceed 150 ppb per annual growth cycle.

Whole Lake or Reservoir Treatments (Limited or No Water Discharge)

Single Application to Whole Lakes or Reservoirs

Where single applications to whole lakes or reservoirs are desired, SonarOne may be applied at an application rate of 16 - 90 ppb. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation—Ponds, Lakes and Reservoirs* section of this label. Choose an application rate from the table below to meet the aquatic plant management objective. **Where greater plant selectivity is desired such as when controlling Eurasian watermilfoil and curlyleaf pondweed, an application rate lower in the rate range may be chosen.** For other plant species, SePRO recommends contacting a SePRO Aquatic Specialist in determining when to choose application rates lower in the rate range to meet specific plant management goals. Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control plant species or in the event of a heavy rainfall event where dilution has occurred. In these cases, a second application or more may be required; however, the sum of all applications must not exceed 150 ppb per annual growth cycle. Refer to the section of this label entitled, *Split or Multiple Applications to Whole Lakes or Reservoirs*, for guidelines and maximum rate allowed.

Attachment 5A - product label for SonarOne

Average Water Depth of Treatment Site (feet)	Pounds of SonarOne Per Treated Surface Acre	
	16 ppb	90 ppb
1	0.9	5.0
2	1.7	10.0
3	2.6	15.0
4	3.5	20.0
5	4.3	25.0
6	5.2	30.0
7	6.0	34.0
8	6.9	39.0
9	7.8	44.0
10	8.6	49.0
11	9.5	54.0
12	10.4	59.0
13	11.2	64.0
14	12.1	68.0
15	13.0	73.0
16	13.8	78.0
17	14.7	83.0
18	15.6	88.0
19	16.4	93.0
20	17.3	98.0

Split or Multiple Applications to Whole Lakes or Reservoirs

To meet certain plant management objectives, split or multiple applications may be desired in making whole lake treatments. Split or multiple application programs are desirable when the objective is to use the minimum effective dose and to maintain this lower dose for the sufficient time to ensure efficacy and enhance selectivity. Under these situations, the lower rates (16 - 75 ppb) within the rate range may be used. **In controlling Eurasian watermilfoil and curlyleaf pondweed and where greater plant selectivity is desired, an application rate lower in the rate range may be chosen.** For other plant species, SePRO recommends contacting a SePRO Aquatic Specialist in determining when to choose application rates lower in the rate range to meet specific plant management goals. For split or repeated applications, the sum of all applications must not exceed 150 ppb per annual growth cycle.

Partial Lake or Reservoir Treatments

Where dilution of SonarOne with untreated water is anticipated, such as in partial lake or reservoir treatments, split or multiple applications may be used to extend the contact time to the target plants. The application rate and use frequency of this product in a partial lake is highly dependent upon the treatment area. An application rate at the higher end of the specified rate range may be required and frequency of applications will vary depending upon the potential of untreated water diluting the product concentration in the treatment area. Use a rate at the higher end of the rate range where greater dilution with untreated water is anticipated.

Application Sites Greater Than ¼ Mile from a Functioning Potable Water Intake

For single applications, SonarOne may be applied at application rates from 45 - 150 ppb. Split or multiple applications may be made; however, the sum of all applications must not exceed 150 ppb per annual growth cycle. Split applications should be conducted to maintain a sufficient

concentration in the target area for a period of 45 days or longer. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

Application Sites within ¼ Mile of a Functioning Potable Water Intake

In treatment areas that are within ¼ mile of a potable water intake, no single application can exceed 20 ppb. When utilizing split or repeated applications of SonarOne for sites which contain a potable water intake, a FasTEST is required to determine the actual concentration in the water. Additionally, the sum of all applications must not exceed 150 ppb per annual growth cycle.

Application Rate Calculation — Ponds, Lakes and Reservoirs

The amount of SonarOne to be applied to provide the desired ppb concentration of active ingredient equivalents in treated water may be calculated as follows:

Pounds of SonarOne required per treated acre = Average water depth of treatment site **x** Desired ppb concentration of active ingredient equivalents **x** 0.054

For example, the pounds per acre of SonarOne required to provide a concentration of 25 ppb of active ingredient equivalents in water with an average depth of 5 feet is calculated as follows:

5 **x** 25 **x** 0.054 = 6.75 pounds per treated surface acre.

NOTE: Calculated rates may not exceed the maximum allowable rate in pounds per treated surface acre for the water depth listed in the application rate table for the site to be treated.

Application to Drainage Canals, Irrigation Canals and Rivers

Static Canals

In static drainage and irrigation canals, apply SonarOne at the rate of 20 - 40 pounds per surface acre.

Moving Water Canals and Rivers

The performance of SonarOne will be enhanced by restricting or reducing water flow. In slow moving bodies of water use an application technique that maintains a concentration of 10 - 40 ppb in the applied area for a minimum of 45 days. This product can be applied by split or multiple broadcast applications or by metering in the product to provide a uniform concentration of the herbicide based upon the flow pattern. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

Static or Moving Water Canals or Rivers Containing a Functioning Potable Water Intake

In treating a static or moving water canal or river which contains a functioning potable water intake, applications of SonarOne greater than 20 ppb must be made more than ¼ mile from a functioning potable water intake. Applications less than 20 ppb may be applied within ¼ mile from a functioning potable water intake; however, if applications of this product are made within ¼ mile from a functioning water intake, a FasTEST must be utilized to demonstrate that concentrations do not exceed 150 ppb at the potable water intake.

Application Rate Calculation — Drainage Canals, Irrigation Canals and Rivers

The amount of SonarOne to be applied through a metering system to provide the desired ppb concentration of active ingredient in treated water may be calculated as follows:

1. Average flow rate (ft. per second) x average width (ft.) x average depth (ft.) x 0.9 = CFS (cubic feet per second)
2. CFS x 1.98 = acre feet per day (water movement)
3. Acre feet **per day** x **desired ppb** x **0.054 = pounds SonarOne required per day.**

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, contain material and dispose as waste.

Pesticide Disposal: Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

Container Handling:

Non-refillable, rigid container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Non-refillable, non-rigid container. DO NOT reuse or refill this container. Completely empty liner into application equipment by shaking and tapping sides and bottom to loosen clinging particles. If not emptied in this manner, the bag may be considered an acute hazardous waste and must be disposed of in accordance with local, state and federal regulations. When completely empty, offer for recycling if available or dispose of in a sanitary landfill or by incineration or by other procedures approved by state and local authorities. If outer packaging is contaminated and cannot be reused, dispose of it in the manner required for its liner.

Non-refillable container. DO NOT reuse or refill this container. Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or by other procedures approved by state and local authorities.

Warranty Disclaimer: SePRO Corporation warrants that this product conforms to the chemical description on the product label. Testing and research have also determined that this product is reasonably fit for the uses described on the product label. To the extent consistent with applicable law, SePRO Corporation makes no other express or implied warranty of fitness or merchantability nor any other express or implied warranty and any such warranties are expressly disclaimed.

Misuse: Federal law prohibits the use of this product in a manner inconsistent with its label directions. To the extent consistent with applicable law, the buyer assumes responsibility for any adverse consequences if this product is not used according to its label directions. In no case shall

SePRO Corporation be liable for any losses or damages resulting from the use, handling or application of this product in a manner inconsistent with its label.

For additional important labeling information regarding SePRO Corporation's Terms and Conditions of Use, Inherent Risks of Use and Limitation of Remedies, please visit *http://www.seprolabels.com/terms/* or scan the image below.

EPA Accepted Date 02/04/2022
FPL20221003

Attachment 5B - product label for Littora

Littora®

Landscape and Aquatic Herbicide

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCIÓN

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist and contact with eyes or clothing.

FIRST AID	
If inhaled	• Move person 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 poison control center or doctor for further treatment advice.
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call **INFOTRAC** at **1-800-535-5053.**	

Note to Physicians: To be effective, treatment for diquat poisoning must begin **IMMEDIATELY.** Treatment consists of binding diquat in the gut with suspensions 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.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils.

Mixers, Loaders, Applicators and Other Handlers Must Wear:

- Coveralls over long-sleeved shirt and long pants;
- Chemical-resistant gloves;
- Chemical-resistant footwear plus socks;
- Protective eyewear;
- Chemical-resistant headgear for overhead exposure;
- Chemical-resistant apron when cleaning equipment, mixing, or loading; and
- Face shield when mixing or loading.

Exception: After this product has been diluted to 0.50% or less in water (i.e., the labeled rate for some spot applications), applicators for *AQUATIC SURFACE APPLICATIONS* must, at a minimum, wear (Note: Mixers and loaders for this application method must still wear the PPE as described in the above section.):

- Long-sleeved shirt and long pants;
- Shoes plus socks;
- Waterproof gloves; and
- Protective eyewear.

Exception: At a minimum, applicators for *AQUATIC SUBSURFACE APPLICATIONS* must wear (Note: Mixers and loaders for this application method must still wear the PPE as described in the above section.):

- Short-sleeved shirt and short pants;
- Waterproof gloves; and
- Chemical-resistant footwear plus socks.

USER SAFETY REQUIREMENT

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders' PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. **For Terrestrial Uses** do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. **For Aquatic Uses** do not apply directly to water except as specified on this label.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read the entire label. Use strictly in accordance with precautionary statements and directions for use, and with applicable state and federal regulations.

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 regulation. Do not apply this product through any type of irrigation system. Do not use this product for reformulation.

Attachment 5B - product label for Littora

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over long-sleeve shirt and long pants;
- Chemical-resistant gloves;
- Chemical-resistant footwear plus socks;
- Protective eyewear; and
- Chemical-resistant headgear for overhead exposure.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas or vicinity where there may be drift.

For terrestrial uses, do not enter or allow entry of maintenance workers into treated areas, or allow contact with treated vegetation wet with spray, dew, or rain, without appropriate protective clothing until spray has dried.

For aquatic uses, do not enter treated areas while treatments are in progress.

PRODUCT INFORMATION

This product is a nonvolatile herbicide for general weed control in:

- Commercial greenhouses and nurseries;
- Ornamental seed crops (flowers, bulbs, etc. - except in the state of California);
- Landscape, industrial, recreational, commercial, residential, and public areas;
- Turf renovation (all turf areas except commercial sod farms);
- Dormant established turfgrass (Bermudagrass, zoysiagrass, nonfood or feed crop); and
- Aquatic areas.

Absorption and herbicidal action is usually quite rapid with effects visible in a few days. This product controls weeds by interfering with photosynthesis that occurs within green plant tissue. Weeds should be succulent and/or actively growing for best results.

Rinse all spray equipment thoroughly with water after use. Avoid spray drift to crops, ornamentals, and other desirable plants during application, as injury may result. Application to muddy water may result in reduced control. Minimize creating muddy water during aquatic application. Use of dirty or muddy water for diluting this product may result in reduced herbicidal activity. Avoid applying under conditions of high wind, water flow, or wave action.

Spray Drift Management

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

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops:

- The distance of the outermost nozzles on the boom must not exceed ¾ the length of the wingspan or rotor; and
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.

Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, *Temperature and Humidity*, and *Temperature Inversions* sections of this label).

Controlling Droplet Size

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 feet above the top of the target plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity conditions set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the wind is blowing away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

USE IN COMMERCIAL GREENHOUSES AND NURSERIES

For general weed control in commercial greenhouses (beneath benches), field grown and container stock, and other similar areas, this product may be applied before crop emergence either pre- or post-plant in field grown ornamental nursery plantings, or post-emergence as a directed spray. This product may also be applied before crop emergence in ornamental seed crops (except in the state of California).

Avoid contact with desirable foliage as injury may occur. Do not use on food or feed crops.

Spot spray: Apply 1-2 quarts of this product plus the labeled rate of a 75% or greater nonionic surfactant per 100 gallons of water, or 0.75 ounces (22 milliliters) of this product plus the labeled rate of a 75% or greater nonionic surfactant per 1 gallon of water.

Broadcast: Apply 1-2 pints of this product in a minimum of 15 gallons of water per acre. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gallons of spray mixture. Use an adequate spray volume to insure good coverage.

USE IN ORNAMENTAL SEED CROPS (FLOWERS, BULBS, ETC.) [EXCEPT IN THE STATE OF CALIFORNIA]

For pre-harvest desiccation of ornamental seed crops. NOT FOR FOOD OR FIBER CROPS.

Broadcast (Air or Ground): Apply 1.5-2 pints of this product plus the labeled rate of a 75% or greater nonionic surfactant per acre in sufficient water (minimum of 5 gallons by air; 15 gallons by ground) for desiccation and weed burndown. Repeat as needed at no less than at 5-day intervals; up to three applications. Do not use seed, screenings, or waste as feed or for consumption.

USE IN LANDSCAPE, INDUSTRIAL, RECREATIONAL, COMMERCIAL, RESIDENTIAL, AND PUBLIC AREAS

Littora Landscape and Aquatic Herbicide provides fast control of broadleaf and grassy weeds in industrial, recreational, golf course, commercial, residential, and public areas. This product is a nonselective herbicide that rapidly kills undesirable above ground weed growth in 24-36 hours. Avoid applications to desirable plants.

This product is a contact/desiccant herbicide; it is essential to obtain complete coverage of the target weeds to get good control. Improper application technique and/or application to stressed weeds may result in unacceptable weed control. For best results, apply to actively growing, young weeds. Difficult weeds (such as perennial or deeply-rooted weeds) can often be controlled by tank mixing this product with other systemic-type herbicides. Refer to other product labels for specific application directions.

Attachment 5B - product label for Littora

For residual weed control, tank mix this product with a pre-emergent herbicide labeled for the intended use site. When mixing this product with another herbicide, it is recommended to mix just a small amount to first determine if the mixture is physically compatible before proceeding with larger volumes.

SePRO Corporation has not tested all possible tank mixtures with other herbicides for compatibility, efficacy or other adverse effects. Before mixing with other herbicides SePRO Corporation recommends you first consult your state experimental station, state university or extension agent.

- **Grounds maintenance weed control:** This product can be used as a spot or broadcast spray to control weeds in public, commercial and residential landscapes, including landscape beds, lawns, golf courses and roadsides. This product can also be used for weed control around the edges and non-flooded portions of ponds, lakes and ditches.
- **Trim and Edge weed control:** This product can be used to eliminate undesired grass and broadleaf plant growth in a narrow band along driveways, walkways, patios, cart paths, fence lines, and around trees, ornamental gardens, buildings, other structures, and beneath noncommercial greenhouse benches. Vegetation control with this product is limited to the spray application width. Do not exceed the labeled rate of this product as excessive rates may result in staining of concrete-based materials.

  Since this product does not translocate systemically, can be used as an edging or pruning tool when precisely applied to select areas of grass or to undesirable growth on desirable ornamental bedding plants, ground covers, etc.
- **Industrial weed control:** Littora Landscape and Aquatic Herbicide can be used as a spot or broadcast spray either alone or in combination with other herbicides as a fast burndown or control weeds in rights-of-ways, railroad beds/ yards, highways, roads, dividers and medians, parking lots, pipelines, pumping stations, public utility lines, transformer stations and substations, electric utilities, storage yards, and other non-crop areas.

Spot spray: Apply either 1-2 quarts of this product plus the labeled rate of a 75% or greater nonionic surfactant per 100 gallons water, or 0.75 ounces (22 milliliters) this product plus the labeled rate of a 75% or greater nonionic surfactant per 1 gallon of water.

Broadcast: 1-2 pints of this product per acre in sufficient water to insure good spray coverage. Add the labeled rate of 75% or greater nonionic surfactant per 100 gallons spray mixture. Greater water volumes are necessary if the target plants are tall and/or dense. It is recommended that 60 gallons or greater water volume be used to obtain good coverage of dense weeds.

USE IN TURF RENOVATION (ALL TURF AREAS EXCEPT COMMERCIAL SOD FARMS)

To desiccate golf course turf and other turf areas prior to renovation, apply 1-2 pints of this product per acre plus the labeled rate of a 75% or greater nonionic surfactant in 20-100 gallons of water (4 teaspoons of this product plus the labeled rate of a 75% or greater nonionic surfactant per 1 gallon of water) using ground spray equipment. Apply for full coverage and thorough contact with the turfgrass. Apply only when the turf is dry, free from dew and incidental moisture. For enhanced turf desiccation, especially in the case of thick turfgrass, water volumes should approach 100 gallons of water per acre.

For suppression of regrowth and quick desiccation of treated turfgrass, this product may be mixed with other systemic nonselective or systemic post-emergence grassy weed herbicides. Refer to other product labels for specific application directions and restrictions.

Avoid spray contact with, or spray drift to, foliage of ornamental plants or food crops. Do not graze livestock on treated turf or feed treated thatch to livestock.

USE IN DORMANT ESTABLISHED TURFGRASS (BERMUDAGRASS, ZOYSIAGRASS), NONFOOD OR FEED CROP

For control of emerged annual broadleaf and grass weeds, including little barley†, annual bluegrass, bromes including rescuegrass, six-weeks fescue, henbit, buttercup, and Carolina geranium in established dormant Bermudagrass lawns, parks, golf courses, etc.

Apply 1-2 pints this product per acre in 20-100 gallons of spray mix by ground as a broadcast application. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gallons of spray mixture.

Bermudagrass must be dormant at application. Application to actively growing Bermudagrass or Bermudagrass in transition may cause delay or permanent injury. Users in the extreme Southern areas should be attentive to the extent of dormancy at the time of application.

†For control of little barley, apply this product prior to the mid-boot stage.

USE IN AQUATIC AREAS

New York - Not for Sale sale or Use use in New York State without Supplemental Special Local Needs Labeling.

Obtain Required Permits: Consult with appropriate state or local pesticide and/or water authorities before applying this product in or around public waters. Permits and posting or treatment notification may be required by state, tribal, or local public agencies.

Treatment of dense weed areas may result in oxygen loss from decomposition of dead weeds. This loss of oxygen may cause fish suffocation. Therefore, to minimize this hazard, do not treat more than ½ of the water body area at one time and wait 14 days between treatments when susceptible plants are mature and have grown to the water's surface, or when the treatment would result in significant reductions in total plant biomass. Waters having limited and less dense weed infestations may not require partial treatments.

For application only to still water (i.e. ponds, lakes, and drainage ditches) where there is minimal or no outflow to public waters.

and/or

For applications to public waters in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds. For use by:

- Corps of Engineers;
- Federal or State public agencies (i.e., Water Management District personnel, municipal officials); or
- Applicators and/or licensees (certified for aquatic pest control) that are authorized by the State or Local government.

Treated water may be used according to the water use restrictions set forth in Table 1 or when an approved assay or analytical method establishes that the water does not contain more than the desig-nated maximum contaminant level goal (MCLG) of 0.02 mg/l (ppm) of diquat dibromide (calculated as the cation).

TABLE 1: WATER USE RESTRICTIONS FOLLOWING APPLICATION (Days)

Application Rate (gallons/ surface acre)	Drinking	Fishing and Swimming	Livestock/ Domestic Animals Consumption	Irrigation to Turf and Landscape Ornamentals††	Irrigation to Food Crops and Production Ornamentals††
≥ 2	3 days	0	1 day	3 days	5 days
1	2 days	0	1 day	2 days	5 days
0.75	2 days	0	1 day	2 days	5 days
0.50	1 day	0	1 day	1 day	5 days
Spot Spray† (< 0.5)	1 day	0	1 day	1 day	5 days

† Add a nonionic surfactant (with at least 75% of the constituents active as a spray adjuvant) at the rate recommended by the manufacturer.

†† For preparing agricultural sprays for food crops, turf or ornamentals (to prevent phytotoxicity), do not use water treated with this product before the specified time period.

When the contents of more than one spray tank is necessary to complete a single aquatic application, no water holding restrictions apply between the consecutive spray tanks.

No applications are to be made in areas where commercial processing of fish, resulting in the produc-tion of fish protein concentrate or fish meal, is practiced.

Floating and Marginal Weed Control

This product may be applied by backpack, airboat, spray handgun, helicopter, airplane, or similar application equipment that results in thorough spray coverage.

- cattails, *Typha* spp.
- duckweed, including *Lemna* spp.
- frog's bit†, *Limnobium spongia*
- pennywort, *Hydrocotyle* spp.
- salvinia spp., including *Salvinia molesta*
- water hyacinth, *Eichhornia crassipes*
- water lettuce, *Pistia stratiotes*

† Not for use in California

Spot Treatment: Apply this product at 2 to 4 quarts per 100 gallons spray carrier (0.5 - 1.0% solution) with an approved aquatic surfactant or wetting agent at 0.25 - 1.0% v/v (1 quart to 1 gallon per 100 gallons water; refer to the surfactant label for product-specific rates). For cattail control, this product should be applied prior to flowering at the maximum application rate (8 quarts of this product /100 gallons spray carrier) plus the wetting agent. Repeat treatments may be necessary for complete control.

Spray to completely wet target weeds but not to runoff. Densely packed weeds or mats may require additional applications due to incomplete spray coverage. Re-treat as needed. For best results, re-treat weed escapes within 2 weeks of the initial treatment.

Broadcast Treatment: Apply this product at the rate of 0.5 - 2.0 gallons per surface acre in sufficient carrier along with 16-32 ounces per acre of an aquatic surfactant or wetting agent (refer to the surfactant label for product specific rates). Re-treat as necessary for densely populated weed areas. Good coverage is necessary for control of the target weeds.

For duckweed control, apply this product at 1 - 2 gallons/acre.

Submersed Weed Control

To control submersed weeds apply this product in water at 0.5 - 2.0 gallons per surface acre (per 4 foot water depth), or up to 0.5 gallons/acre foot in water with an average depth greater than 4 feet deep. For severe weed infestations or when treating more difficult to control species, use 0.5 gallons/acre foot of water. Refer to Table 2 for application rates.

- algae††, *Spirogyra* spp. and *Pithophora* spp.
- bladderwort, *Utricularia* spp.
- Brazilian elodea, *Egeria densa*
- coontail, *Ceratophyllum demersum*
- watermilfoils, including Eurasian, *Myriophyllum* spp.
- elodea, *Elodea* spp.
- hydrilla, *Hydrilla verticillata*
- naiads, *Najas* spp.
- pondweeds†, *Potamogeton* spp.

†This product controls *Potamogeton* species except Richardson's pondweed, (*P. richardsonii*).

††Suppression only. For control of *Spirogyra* and/or *Pithophora*, use this product in a tank mix with an approved algaecide.

Attachment 5B - product label for Littora

TABLE 2: GALLONS OF PRODUCT PER SURFACE ACRE†				
Application Rate (gallons/acre)	Average Water Depth			
	1 Foot	2 Feet	3 Feet	4 Feet††
1	0.25 gal.	0.50 gal	0.75 gal.	1.0 gal.
2	0.50 gal	1.0 gal.	1.5 gals.	2.0 gals.

† For water depths ≤ 2 feet including shorelines, do not exceed 1 gallon per surface acre.

†† In treatment areas with an average water depth greater than 4 feet, apply a maximum of 0.5 gallons per acre foot of water.

Subsurface Applications: Where the submersed weed growth, especially hydrilla, has reached the water surface, apply either in a water carrier or an invert emulsion through trailing hoses to apply the dilute spray below the water surface to insure adequate coverage.

Bottom Placement: Where submersed weeds such as hydrilla, bladderwort, or coontail are growing in deeper water and are less mature (e.g. not to the surface of the water) and/or where the water is slowly moving through the weed growth, the use of an application method (such as invert emulsion carrier or long-trailing hoses) to inject this product near the bottom with weighted hoses may improve control.

Surface Application for Submerged Aquatic Weeds: Apply the recommended rate of this product as a spray in sufficient carrier to fully cover the target area. Applications should be made to ensure complete coverage of the weed areas. In mixed weed populations, use the high rate of application as indicated by weeds present. For dense submersed weeds or water over 2 feet deep, a surface spray is not recommended (This product should be applied subsurface in these situations.)

Tank Mixes With Other Aquatic Herbicides/Algaecides: For severe weed or algae infestations, the use of an approved algaecide either as a pretreatment to the application of this product or in a tank mix, may result in enhanced weed control.

When tank mixing, read and follow the labeled precautionary statements, directions for use, weeds controlled, and other restrictions for each tank mix product. **Use in accordance with the most restrictive label limitations and precautions of the products used in the tank mix.** Do not exceed any labeled rate or dose. To ensure compatibility, a jar test is recommended before field application of any tank mix combination. Consult with SePRO Corporation for latest tank mix recommendations.

Littora Landscape and Aquatic Herbicide + Komeen®
The addition of Komeen, or other copper-based herbicides/algaecides, with this product may improve control on some species, such as hydrilla. For best results, apply 2 gallons this product in combination with 4 gallons of Komeen (0.8 lbs. a.i./gallon) per acre. For hydrilla control and control of other species with high sensitivity to copper, lower rates of Komeen may also enhance the activity of this product. Apply copper at a minimum of 0.1 ppm in combination with this product. Higher rates may be needed in areas with dense weeds.

Littora Landscape and Aquatic Herbicide + endothall
The addition of endothall with this product may improve control on some species, such as hydrilla. For best results, apply this product at 1 to 2 gallons per acre in combination with the dipotassium salt of endothall at 0.6 to 1.2 gallons/acre foot (i.e. 1 to 2.0 ppm a.i.). Higher rates may be used, but do not exceed the maximum allowed rate for either product.

NOTE: For Drinking (Potable) Water

- The drinking (potable) water restrictions for applications of this product plus endothall are to ensure that consumption of water by the public is allowed only when the concentration of endothall in the water is less than the MCL (Maximum Contamination Level) of 0.1 ppm. Applicators should consider the unique characteristics of the treated waters to assure that endothall concentrations in potable drinking water do not exceed 0.1 ppm at the time of consumption.
- For applications of this product plus endothall, the drinking water setback distance from functioning potable water intakes is > 600 feet. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
Pesticide Storage: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F.
Pesticide Disposal: Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Non-refillable Container Disposal (rigid, 5 gallons or less): Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat the procedure two more times. Then offer the container for recycling (if available) or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

Warranty Disclaimer: SePRO Corporation warrants that this product conforms to the chemical description on the product label. Testing and research have also determined that this product is reasonably fit for the uses described on the product label. To the extent consistent with applicable law, SePRO Corporation makes no other express or implied warranty of fitness or merchantability nor any other express or implied warranty and any such warranties are expressly disclaimed.

Misuse: Federal law prohibits the use of this product in a manner inconsistent with its label directions. To the extent consistent with applicable law, the buyer assumes responsibility for any adverse consequences if this product is not used according to its label directions. In no case shall SePRO Corporation be liable for any losses or damages resulting from the use, handling or application of this product in a manner inconsistent with its label.

For additional important labeling information regarding SePRO Corporation's Terms and Conditions of Use, Inherent Risks of Use and Limitation of Remedies, please visit *http://seprolabels.com/terms* or scan the image below.

FPL20151006

SePRO Corporation
11550 North Meridian Street, Suite 600
Carmel, IN 46032, U.S.A.

Attachment 5C - product label for Reward

Attachment 5C - product label for Reward

FIRST AID	
If inhaled	• Move person 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 poison control center or doctor for further treatment advice.
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIANS

To be effective, treatment for diquat poisoning must begin **IMMEDIATELY**. Treatment consists of binding diquat in the gut with suspensions 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOTLINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call
1-800-888-8372

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes, skin, or clothing.

continued...

Attachment 5C - product label for Reward

PRECAUTIONARY STATEMENTS *(continued)*

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils. If you want more options, follow the instructions for Category A on an EPA Chemical Resistance Category Selection Chart.

Mixers, Loaders, Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants or coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing, or loading
- Face shield when mixing or loading

Exception: After this product has been diluted to 0.50% Reward or less in water (i.e., the labeled rate for some spot applications), applicators for AQUATIC SURFACE APPLICATIONS must, at a minimum, wear (Note - Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section):

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- Protective eyewear

Exception: At a minimum, applicators for AQUATIC SUBSURFACE APPLICATIONS must wear (Note - Mixers and Loaders for this application method must still wear the personal protective equipment (PPE) as described in the above section):

- Short-sleeved shirt and short pants
- Waterproof gloves
- Chemical-resistant footwear plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

Engineering Control Statements

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders' PPE requirements may be reduced or modified as specified in the WPS.

Attachment 5C - product label for Reward

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Prolonged contact of the product with the skin may produce burns.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates. **For Terrestrial Uses**, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. **For Aquatic Uses** do not apply directly to water except as specified on this label.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. To the extent permitted by applicable law, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

Attachment 5C - product label for Reward

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

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

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 regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls over short-sleeved shirt and short pants, or coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

Attachment 5C - product label for Reward

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas or vicinity where there may be drift.

For terrestrial uses, do not enter or allow entry of maintenance workers into treated areas, or allow contact with treated vegetation wet with spray, dew, or rain, without appropriate protective clothing until spray has dried.

For aquatic uses, do not enter treated areas while treatments are in progress.

SPECIFIC USE DIRECTIONS

Reward Landscape and Aquatic Herbicide is a nonvolatile herbicidal chemical for use as a general herbicide to control weeds in commercial greenhouses and nurseries; ornamental seed crops (flowers, bulbs, etc. – except in the state of California); landscape, industrial, recreational, commercial, residential, and public areas; turf renovation (all turf areas except commercial sod farms); dormant established turfgrass (bermudagrass, zoysiagrass – nonfood or feed crop); and aquatic areas. Absorption and herbicidal action is usually quite rapid with effects visible in a few days. Reward Landscape and Aquatic Herbicide controls weeds by interfering with photosynthesis within green plant tissue. Weed plants should be succulent and actively growing for best results. Rinse all spray equipment thoroughly with water after use. Avoid spray drift to crops, ornamentals, and other desirable plants during application, as injury may result. Application to muddy water may result in reduced control. Minimize creating muddy water during application. Use of dirty or muddy water for Reward Landscape and Aquatic Herbicide dilution may result in reduced herbicidal activity. Avoid applying under conditions of high wind, water flow, or wave action.

SPRAY DRIFT MANAGEMENT

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

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wing span or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed.

Attachment 5C - product label for Reward

Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See **Wind, Temperature and Humidity,** and **Temperature Inversions**).

Controlling Droplet Size

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 ft. above the top of the target plants, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Attachment 5C - product label for Reward

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the wind is blowing away from adjacent sensitive areas (e g , residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops).

COMMERCIAL GREENHOUSES AND NURSERIES

For general weed control in commercial greenhouses (beneath benches), field grown and container stock, and other similar areas, Reward Landscape and Aquatic Herbicide may be applied preplant or postplant preemergence in field grown ornamental nursery plantings or postemergence as a directed spray. Reward Landscape and Aquatic Herbicide may also be applied preemergence in ornamental seed crops (except in the state of California). Avoid contact with desirable foliage as injury may occur. Do not use on food or feed crops.

Spot spray: 1-2 qts. Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per 100 gals. of water, or 0.75 oz. (22 mls.) Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water.

Broadcast: 1-2 pts. Reward Landscape and Aquatic Herbicide in a minimum of 15 gals. of water per acre. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gals. of spray mixture. Use an adequate spray volume to insure good coverage.

ORNAMENTAL SEED CROPS (FLOWERS, BULBS, ETC.) EXCEPT IN THE STATE OF CALIFORNIA

For preharvest desiccation of ornamental seed crops. NOT FOR FOOD OR FIBER CROPS.

Broadcast (Air or Ground): 1.5-2 pts. Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per acre in sufficient water (minimum of 5 gals. by air; 15 gals. by ground) for desiccation and weed burndown. Repeat as needed at no less than 5-day intervals up to three applications. Do not use seed, screenings, or waste as feed or for consumption.

Attachment 5C - product label for Reward

DIRECTIONS FOR LANDSCAPE, INDUSTRIAL, RECREATIONAL, COMMERCIAL, RESIDENTIAL, AND PUBLIC AREAS

Reward Landscape and Aquatic Herbicide provides fast control of broadleaf and grassy weeds in industrial, recreational, golf course, commercial, residential, and public areas.

Reward Landscape and Aquatic Herbicide is a nonselective herbicide that rapidly kills undesirable above ground weed growth in 24-36 hours. Avoid application of Reward Landscape and Aquatic Herbicide to desirable plants.

Reward Landscape and Aquatic Herbicide is a contact/desiccant herbicide; it is essential to obtain complete coverage of the target weeds to get good control. Improper application technique and/or application to stressed weeds may result in unacceptable weed control. For best results, apply to actively growing, young weeds.

Difficult weeds (such as perennial or deeply-rooted weeds) can often be controlled by tank mixing Reward Landscape and Aquatic Herbicide with other systemic-type herbicides. Refer to other product labels for specific application directions.

For residual weed control, tank mix Reward Landscape and Aquatic Herbicide with a preemergent herbicide labeled for the intended use site. When mixing Reward Landscape and Aquatic Herbicide with another herbicide, it is recommended to mix just a small amount first to determine if the mixture is physically compatible before proceeding with larger volumes.

Syngenta has not tested all possible tank mixtures with other herbicides for compatibility, efficacy or other adverse effects. Before mixing with other herbicides Syngenta recommends you first consult your state experimental station, state university or extension agent.

Grounds maintenance weed control: Reward Landscape and Aquatic Herbicide can be used as a spot or broadcast spray to control weeds in public, commercial and residential landscapes, including landscape beds, lawns, golf courses and roadsides. Reward Landscape and Aquatic Herbicide can also be used for weed control around the edges and nonflooded portions of ponds, lakes and ditches.

Trim and Edge weed control: Reward Landscape and Aquatic Herbicide can be used to eliminate undesired grass and broadleaf plant growth in a narrow band along driveways, walkways, patios, cart paths, fence lines, and around trees, ornamental gardens, buildings, other structures, and beneath noncommercial greenhouse benches. Vegetation control with Reward Landscape and Aquatic Herbicide is limited to the spray application width. Do not exceed the labeled rate of Reward Landscape and Aquatic Herbicide as excessive rates may result in staining of concrete-based materials.

Reward Landscape and Aquatic Herbicide, since it does not translocate systemically, can be used as an edging or pruning tool when precisely applied to select areas of grass or to undesirable growth on desirable ornamental bedding plants, ground covers, etc.

Industrial weed control: Reward Landscape and Aquatic Herbicide can be used as a spot or broadcast spray either alone or in combination with other herbicides as a fast burndown or control weeds in rights-of-ways, railroad beds/yards, highways, roads, dividers and medians, parking lots, pipelines, pumping stations, public utility lines, transformer stations and substations, electric utilities, storage yards, and other non-crop areas.

Attachment 5C - product label for Reward

Spot spray: Apply either 1-2 qts. of Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per 100 gals. water, or 0.75 oz. (22 mls.) Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water.

Broadcast: 1-2 pts. Reward Landscape and Aquatic Herbicide per acre in sufficient water to insure good spray coverage. Add the labeled rate of 75% or greater nonionic surfactant per 100 gals. spray mixture. Greater water volumes are necessary if the target plants are tall and/or dense. It is recommended that 60 gals. or greater water volume be used to obtain good coverage of dense weeds.

TURF RENOVATION (ALL TURF AREAS EXCEPT COMMERCIAL SOD FARMS)

To desiccate golf course turf and other turf areas prior to renovation, apply 1-2 pts. of Reward Landscape and Aquatic Herbicide per acre plus the labeled rate of a 75% or greater nonionic surfactant in 20-100 gals. of water (4 teaspoons of Reward Landscape and Aquatic Herbicide plus the labeled rate of a 75% or greater nonionic surfactant per 1 gal. of water) using ground spray equipment. Apply for full coverage and thorough contact with the turfgrass. Apply only when the turf is dry, free from dew and incidental moisture. For enhanced turf desiccation, especially in the case of thick turfgrass, water volumes should approach 100 gals. of water per acre.

For **suppression** of regrowth and quick desiccation of treated turfgrass, Reward Landscape and Aquatic Herbicide may be mixed with other systemic nonselective or systemic postemergence grassy weed herbicides. Refer to other product labels for specific application directions and restrictions.

Avoid spray contact with, or spray drift to, foliage of ornamental plants or food crops.

Do not graze livestock on treated turf or feed treated thatch to livestock.

DORMANT ESTABLISHED TURFGRASS (BERMUDAGRASS, ZOYSIAGRASS), NONFOOD OR FEED CROP

For control of emerged annual broadleaf and grass weeds, including Little Barley*, Annual Bluegrass, Bromes including Rescuegrass, Sixweeks fescue, Henbit, Buttercup, and Carolina Geranium in established dormant bermudagrass lawns, parks, golf courses, etc.

Apply 1-2 pts. Reward Landscape and Aquatic Herbicide per acre in 20-100 gals. of spray mix by ground as a broadcast application. Add the labeled rate of a 75% or greater nonionic surfactant per 100 gals. of spray mixture.

Bermudagrass must be dormant at application. Application to actively growing bermudagrass may cause delay or permanent injury. Users in the extreme Southern areas should be attentive to the extent of dormancy at the time of application.

*For control of Little Barley, apply Reward Landscape and Aquatic Herbicide prior to the mid-boot stage.

AQUATIC USE DIRECTIONS

New York - Not for Sale or Use in New York State without Supplemental Special Local Needs Labeling.

Necessary approval and/or permits must be obtained prior to application if required. Consult the responsible State Agencies (i.e., Fish and Game Agencies, State Water Conservation authorities, or Department of Natural Resources).

Attachment 5C - product label for Reward

Treatment of dense weed areas may result in oxygen loss from decomposition of dead weeds. This loss of oxygen may cause fish suffocation. Therefore, treat only 1/3 to 1/2 of the water body area at one time and wait 14 days between treatments.

For best results on submersed weeds, Reward Landscape and Aquatic Herbicide should be applied to actively growing (photosynthesizing) weeds when water temperatures have reached or exceeded approximately 50°F, typically during the Spring or early Summer.

For application only to still water (i.e. ponds, lakes, and drainage ditches) where there is minimal or no outflow to public waters.

and/or

For applications to public waters in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds. For use by:

- Corps of Engineers; or
- Federal or State Public Agencies (i.e., Water Management District personnel, municipal officials); or
- Applicators and/or Licensees (certified for aquatic pest control) that are authorized by the State or Local government.

Treated water may be used according to the following table or until such time as an approved assay (example: PAM II Spectromatic Method) shows that the water does not contain more than the designated maximum contaminant level goal (MCLG) of 0.02 mg/l. (ppm) of diquat dibromide (calculated as the cation)

Water Use Restrictions Following Applications With Reward Landscape And Aquatic Herbicide (Days)

Application Rate	Drinking	Fishing and Swimming	Livestock/ Domestic Animals Consumption	Spray Tank Applications** and Irrigation to Turf and Landscape Ornamentals	Spray Tank Applications** and Irrigation to Food Crops and Production Ornamentals
2 gals./surface acre	3 days	0	1 day	3 days	5 days
1 gal./surface acre	2 days	0	1 day	2 days	5 days
0.75 gal./surface acre	2 days	0	1 day	2 days	5 days
0.50 gal./surface acre	1 day	0	1 day	1 day	5 days
Spot Spray* (<0.5 gal./surface acre)	1 day	0	1 day	1 day	5 days

*Add a nonionic surfactant (with at least 75% of the constituents active as a spray adjuvant) at the rate recommended by the manufacturer.

**For preparing agricultural sprays for food crops, turf or ornamentals (to prevent phytotoxicity), do not use water treated with Reward Landscape and Aquatic Herbicide before the specified time period.

Attachment 5C - product label for Reward

When the contents of more than one spray tank is necessary to complete a single aquatic application, no water holding restrictions apply between the consecutive spray tanks.

No applications are to be made in areas where commercial processing of fish, resulting in the production of fish protein concentrate or fish meal, is practiced. Before application, coordination and approval of local and/or State authorities must be obtained.

Floating and Marginal Weeds Including:

Water lettuce, *Pistia stratiotes*
Water hyacinth, *Eichhornia crassipes*
Duckweed, *Lemna* spp.
Salvinia spp. (including *S. molesta*)
Pennywort (*Hydrocotyle* spp.)
Frog's Bit[1], *Limnobium spongia*
Cattails, *Typha* spp.

[1]Not for use in California

Reward Landscape and Aquatic Herbicide may be applied by backpack, airboat, spray handgun, helicopter, airplane, or similar application equipment that results in thorough spray coverage.

Spot Treatment: Apply Reward Landscape and Aquatic Herbicide at 2 quarts per 100 gallons spray carrier (0.5% solution) with an approved aquatic wetting agent at 0.25-1.0% v/v (1 quart to 1 gallon per 100 gallons water). For cattail control, Reward Landscape and Aquatic Herbicide should be applied prior to flowering at the maximum application rate (8 quarts of Reward Landscape and Aquatic Herbicide/100 gallons spray carrier) plus the wetting agent. Repeat treatments may be necessary for complete control.

Spray to completely wet target weeds but not to runoff. Densely packed weeds or mats may require additional applications due to incomplete spray coverage. Re-treat as needed. For best results, re-treat weed escapes within 2 weeks of the initial treatment.

Broadcast Treatment: Apply Reward Landscape and Aquatic Herbicide at the rate of 0.5-2.0 gallons per surface acre in sufficient carrier along with 16-32 oz/A of an approved wetting agent. Re-treat as necessary for densely populated weed areas. Good coverage is necessary for control of the target weeds.

For duckweed control, apply Reward Landscape and Aquatic Herbicide at 1-2 gallons/A.

Attachment 5C - product label for Reward

Submersed Weeds Including:

Bladderwort, *Utricularia* spp.
Hydrilla, *Hydrilla verticillata*
Watermilfoils (including Eurasian), *Myriophyllum* spp.
Pondweeds[1], *Potamogeton* spp.
Coontail, *Ceratophyllum demersum*
Elodea, *Elodea* spp.
Brazilian Elodea, *Egeria densa*
Naiad, *Najas* spp.
Algae[2], *Spirogyra* spp. and *Pithophora* spp.

[1]Reward Landscape and Aquatic Herbicide controls *Potamogetan* species except Richardson's pondweed, *P. richardsonii*.

[2]Suppression only. For control of *Spirogyra* and/or *Pithophora*, use Reward Landscape and Aquatic Herbicide in a tank mix with an approved algaecide.

For severe weed or algae infestations, the use of an approved algaecide either as a pretreatment to the Reward Landscape and Aquatic Herbicide application or in a tank mix, may result in enhanced weed control.

To control submersed weeds, apply Reward Landscape and Aquatic Herbicide in water at 0.5-2.0 gallons per surface acre (per 4 foot water depth). For severe weed infestations, use the 2.0 gallon per surface acre rate. For best results, re-treat as necessary on 14-21 day intervals. The table below shows how many gallons of Reward Landscape and Aquatic Herbicide to apply per surface acre based on water depth.

	Gallons of Reward Landscape and Aquatic Herbicide per Surface Acre Average Water Depth			
	1 Foot	2 Feet	3 Feet	4 Feet
1 gallon/acre rate	0.25 gal.	0.50 gal.	0.75 gal.	1.0 gal.
2 gallon/acre rate	0.50 gal.	1.0 gal.	1.5 gals.	2.0 gals.

Note: For water depths of 2 feet or less including shorelines, do not exceed 1 gallon per surface acre

Attachment 5C - product label for Reward

Subsurface Applications: Where the submersed weed growth, especially Hydrilla, has reached the water surface, apply either in a water carrier or an invert emulsion through boom trailing hoses carrying nozzle tips to apply the dilute spray below the water surface to insure adequate coverage.

Bottom Placement: Where submersed weeds such as Hydrilla, Bladderwort, or Coontail have reached the water surface and/or where the water is slowly moving through the weed growth, the use of an invert emulsion carrier injecting diluted Reward Landscape and Aquatic Herbicide near the bottom with weighted hoses may improve control. The addition of a copper based algaecide may improve control. If algae are present along with the submersed weeds, a pretreatment with a copper based algaecide may improve overall control.

Surface Application for Submerged Aquatic Weeds: Apply the recommended rate of Reward Landscape and Aquatic Herbicide as a spray in sufficient carrier to fully cover the target area. Applications should be made to ensure complete coverage of the weed areas. In mixed weed populations, use the high rate of application as indicated by weeds present. For dense submersed weeds or water over 2 feet deep, a surface spray is not recommended (Reward Landscape and Aquatic Herbicide should be applied subsurface in these situations.)

If posting is required by your state or tribe – consult the agency responsible for pesticide regulations for specific details.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F. For help with any spill, leak, fire, or exposure involving this material, call **1-800-888-8372**

Pesticide Disposal

Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling [less than 5 gallons]

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Attachment 5C - product label for Reward

Container Handling [Bulk/Mini-Bulk]

Refillable container. Refill this container with Reward Landscape and Aquatic Herbicide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. If the container is damaged, leaking or obsolete, contact Syngenta Crop Protection at 1-800-888-8372.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

SCP 1091A-L2G 1009
4034800

Attachment 5C - product label for Reward

Reward®
Landscape and aquatic herbicide

Landscape and Aquatic Herbicide

TO PREVENT ACCIDENTAL POISONING, NEVER PUT INTO FOOD, DRINK, OR OTHER CONTAINERS, AND USE STRICTLY IN ACCORDANCE WITH ENTIRE LABEL.

DO NOT USE THIS PRODUCT FOR REFORMULATION.

Active Ingredient:	
Diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c) pyrazinediium dibromide]	37.3%
Other Ingredients:	62.7%
Total:	100.0%

Contains 2 lbs. diquat cation per gal. (3.73 lbs. diquat dibromide per gal.)

See additional precautionary statements in booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

EPA Reg. No. 100-1091
EPA Est. 100-LA-001

Reward® and the Syngenta logo are trademarks of a Syngenta Group Company

Manufactured for:
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

SCP 1091A-L2G 1009
4034800

(01) 0 07 02641 73210 5

KEEP OUT OF REACH OF CHILDREN.

CAUTION

FIRST AID

If inhaled: Move person 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 poison control center or doctor for further treatment advice.

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

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

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIANS: To be effective, treatment for diquat poisoning must begin IMMEDIATELY. Treatment consists of binding diquat in the gut with suspensions 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER: For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with eyes, skin, or clothing.

Environmental Hazards: This pesticide is toxic to aquatic invertebrates. For Terrestrial Uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water. For Aquatic Uses do not apply directly to water except as specified on this label.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not contaminate feed, foodstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F. For help with any spill, leak, fire, or exposure involving this material, call 1-800-888-8372.

Pesticide Disposal: Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling [less than 5 gallons]: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

2.5 gallons
Net Contents

syngenta®

SAFETY DATA SHEET

SonarOne® Aquatic Herbicide

Section 1. Identification

GHS product identifier : SonarOne® Aquatic Herbicide

Other means of identification : Not available.

EPA Registration No. : 67690-45

Relevant identified uses of the substance or mixture

Aquatic herbicide.

Supplier's details : SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

Emergency telephone number (with hours of operation) : **INFOTRAC - 24-hour service 1-800-535-5053**

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : EYE IRRITATION - Category 2B
AQUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Signal word : Warning

Hazard statements : H320 - Causes eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P273 - Avoid accidental release to the environment.
P264 - Wash hands thoroughly after handling.

Response : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Date of issue : 06/30/2017

KMK Regulatory Services

Section 2. Hazards identification

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Ingredient name	%	CAS number
Proprietary ingredient 3	40 - 60	-
Proprietary ingredient 4	20 - 40	-
Proprietary ingredient 1	10 - 20	-
Fluridone	5	59756-60-4
Proprietary ingredient 2	1 - 5	-

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 : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. If irritation persists, get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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 : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Section 4. First aid measures

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

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

Notes to physician : 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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 known.

Specific hazards arising from the chemical : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

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.

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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialized 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".

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). May be harmful to the environment if accidentally released in large quantities.

Methods and materials for containment and cleaning up

Spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, 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

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid accidental release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Fluridone	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.

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : 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
SonarOne® Aquatic Herbicide	LD50 Dermal LD50 Oral	Rabbit Rat	>2000 mg/kg >5000 mg/kg	- -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
SonarOne® Aquatic Herbicide	Eyes - Mild irritant	Rabbit	-	-	-

There is no data available.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
SonarOne® Aquatic Herbicide	skin	Guinea pig	Not sensitizing

Mutagenicity

Conclusion/Summary : Based on active ingredients: no known evidence.

Carcinogenicity

Conclusion/Summary : Based on active ingredients: no known evidence.

Reproductive toxicity

Conclusion/Summary : Based on active ingredients: no known evidence.

Teratogenicity

There is no data available.

Section 8. Exposure controls/personal protection

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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 : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Pellets.]

Color : Brown to gray.

Odor : Faint earthy/musty.

Odor threshold : Not available.

pH : 7.8 [Conc. (% w/w): 31%]

Melting point : Not available.

Boiling point : Not available.

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.02 at 20°C

Solubility : Not available.

Solubility in water : Insoluble. Pellet disintegrates in water.

Partition coefficient: n-octanol/water : Not available.

Section 11. Toxicological information

Neurotoxicity

Conclusion/Summary : Based on active ingredients: no known evidence.

Immunotoxicity

Conclusion/Summary : Based on active ingredients: no known evidence.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : No known significant effects or critical hazards.

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 : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

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

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

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.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Fluridone	EC50 3 mg/L LC50 8 mg/L LC50 >5.2 mg/L LC50 >6.5 mg/L Chronic NOEC 0.84 mg/L Chronic NOEC 0.43 mg/L	Daphnia - *Daphnia magna* Crustaceans - *Eucyclops sp.* Fish - *Cyprinodon variegatus* Fish - *Pimephales promelas* Daphnia - *Daphnia magna* Fish - *Oncorhynchus tshawytscha*	48 hours 48 hours 96 hours 96 hours 21 days 75 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Fluridone	3.16	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should 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. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

AERG : Not applicable.

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.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

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

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

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Section 15. Regulatory information

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Fluridone	No.	No.	No.	Yes.	No.

SARA 313

There is no data available.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : The following components are listed: Proprietary ingredient 3

Pennsylvania : The following components are listed: Proprietary ingredient 3

California Prop. 65

No products were found.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
EYE IRRITATION - Category 2B AQUATIC HAZARD (ACUTE) - Category 3 AQUATIC HAZARD (LONG-TERM) - Category 3	On basis of test data Calculation method Calculation method

History

Date of issue mm/dd/yyyy : 06/30/2017

Date of previous issue : 09/15/2015

Version : 5

Prepared by : KMK Regulatory Services Inc.

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.

Conforms to HazCom 2012/United States

SDS

Littora

SAFETY DATA SHEET

Littora®

Landscape and Aquatic Herbicide

Section 1. Identification

Product name : Littora® Landscape and Aquatic Herbicide
Other means of identification : EPA Registration Number 67690-53

Supplier's details : SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

Emergency telephone : **INFOTRAC - 24-hour service 1-800-535-5053**

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.

Section 2. Hazards identification

Hazard Classification:

Acute Oral Toxicity:	Category 4
Acute Dermal Toxicity:	Category 4
Acute Inhalation Toxicity:	Category 2
Acute Aquatic Toxicity:	Category 4

Signal Word: Caution

Hazard Statements: Toxic by inhalation. Irritating to eyes and skin. Harmful if swallowed.

Hazard Pictograms:

Precautionary Statements: Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyeware. Wear long-sleeved shirt, long pants, socks, shoes and gloves.

Description of Hazards not Otherwise Classified: This pesticide is toxic to aquatic invertebrates.

Section 3. Composition/information on ingredients

Hazardous Component Name	CAS No.	Average % by Weight
Diquat dibromide	85-00-7	37.3%

Section 4. First aid measures

General information:

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

If inhaled:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable by mouth-to-mouth if possible.
- Call a poison control center or doctor for future treatment advice.

If swallowed:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a 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.

If in eyes:

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

Notes to Physician:

To be effective, treatment for ingestion of the product must begin IMMEDIATELY. Treatment consists of binding the active ingredient, diquat, in the gut with suspensions 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.

Section 5. Fire-fighting measures

Fire Extinguishing Equipment:

Use dry chemical, foam or CO_2 extinguishing media. Wear full protective clothing and self contained breathing apparatus.

Fire and Explosion Hazards:

This product may form flammable and explosive hydrogen gas when in contact with aluminum. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Hazardous Decomposition Products: Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10. May decompose at high temperatures forming toxic gases.

PPE for firefighters/fire fighting instructions:

Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

Section 6. Accidental release measures

Personal Precautions:

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 personal protective equipment immediately after handling this product. Wash the outside of gloves before removing.

Methods for Cleaning Up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminated soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

Section 7. Handling and storage

Handling Procedures:

This product reacts with aluminum to produce flammable hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

Storing Procedures:

Store the material in well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Work/Hygienic Procedures:

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 personal protective equipment immediately after handling this product. Wash the outside of gloves before removing.

Section 8. Exposure controls/personal protection

Exposure Limits:

OSHA PEL	Not established
ACGIH TLV	0.5 mg/m³ TWA (total No dust); 0.08 mg/m³ TWA (respirable dust)
NIOSH TWA	0.5 mg/m³

Engineering Controls:

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

Personal Protective Equipment:

Eye Protection	Use splash-proof goggles if needed to prevent liquid from getting into the eyes.
Ingestion	Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure the material. Wash thoroughly with soap and water after handling.
Skin Protection	Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
Inhalation	A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

Section 9. Physical and chemical properties

Appearance	Dark brown liquid
Odor	Odorless
pH	4 - 6
Specific Gravity	1.2 g/mL at 20°C
Melting Point	Not Applicable
Water solubility	718,000 mg/L at 25°C and pH 7.2 (Diquat dibromide)
Vapor Pressure	$<10^{-8}$ mmHg at 25°C (Diquat dibromide)
Flash point	Not Applicable
Flammable Limits (% in Air)	Not Applicable
Autoignition Temperature	Not Applicable
Flammability	Not Applicable

Section 10. Stability and reactivity

Conditions to Avoid	Concentrate should not be stored in aluminum containers. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.
Hazardous Polymerization	Will not occur.
Chemical Stability	Stable under normal conditions.
Materials to Avoid	Strong alkalis and anionic wetting agents (e.g., alkyl and alkylaryl sulfonates). Corrosive to aluminum.
Hazardous Decomposition	Flammable hydrogen gas may be formed on contact with aluminum. See "Conditions to Avoid", Section 10. May decompose at high temperatures forming toxic gases.

Section 11. Toxicological information

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	Rat (Female):	LD_{50}: = 886 mg/kg body weight (Slightly Toxic)
Dermal:	Rat:	LD_{50}: > 5,050 mg/kg body weight (Practically Non-Toxic)
Inhalation:	Rat:	LD_{50}: = 0.62 mg/L air – 4 hours
Eye Contact:	Rabbit:	Mildly Irritating
Skin Contact:	Rabbit:	Slightly Irritating
Skin Sensitization:	Guinea Pig:	Not a Sensitizer

Reproductive & Development Effects:

Diquat dibromide:

Mutagenicity:	No evidence in in vivo assays
Developmental Toxicity:	In rabbit studies a small percentage of fetuses had minor defects at 3 and 10 mg ion/kg/d.

Chronic/Sub-Chronic Toxicity Studies:

Diquat dibromide:

Kidney weight decreases and cataracts seen in dogs at 12.5 mg ion/kg/d. No evidence for neurotoxic effects in rats dosed up to 400 ppm ion in the diet for 13 weeks.

Carcinogenicity:

Diquat dibromide:

No evidence of carcinogenicity in rat and mouse studies.

Other Toxicity Information:
None

Toxicity of Other Components:
Not Applicable

Target Organs:
Diquat Dibromide: Eye, kidney
Inert Ingredients: Not Applicable

Section 12. Ecological information

This pesticide is toxic to aquatic invertebrates. **For Terrestrial Uses** do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. **For Aquatic Uses** do not apply directly to water except as specified on this label.

Summary of Effects
Diquat dibromide:
Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Eco-Acute Toxicity
Diquat dibromide:

Fish (Rainbow Trout)	96-hour LC_{50}	14.83ppm
Fish (Bluegill Sunfish)	96-hour LC_{50}	13.9ppm
Bird (Mallard Duck)	Oral LD_{50}	60.6 mg/kg
Bird (Mallard Duck)	8-day dietary LC_{50}	5000ppm
Bee (Contact)	LD_{50}	100ug/bee
Invertebrate (Water Flea)	48-hour EC_{50}	0.77ppm
Green Algae	4-day EC_{50}	9.4ppb

Eco-Chronic Toxicity
Diquat dibromide:

Invertebrate (Water Flea)	21-day LOEC	0.17ppm
Bird (Mallard Duck)	Reproduction LOEL	25ppm
Fish (Fathead Minnow)	34-day LOEC	1.5ppm

Environmental Fate
Diquat dibromide:
The information presented here is for the active ingredient, diquat dibromide. Stable in soil water. Immobile in soil. Sinks in water (after 24 hr).

Section 13. Disposal considerations

Waste Disposal:
Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

Disposal:
Do not contaminate water, food or feed by storage. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:
Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

Section 14. Transport information

DOT CLASSIFICATION:
UN1760, Corrosive Liquid, N.O.S. (Diquat Dibromide), 8, PGIII

IMDG CLASSIFICATION:
UN1760, Corrosive Liquid, N.O.S. (Diquat Dibromide), 8, PGIII, EmS F-A, S-F, Stowage Category A

IATA CLASSIFICATION:
UN1760, Corrosive Liquid, N.O.S. (Diquat Dibromide), 8, PGIII, Packaging Instruction Y841

Section 15. Regulatory information

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard
Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

None

CERCLA/SARA 302 Reportable Quantity (RQ)

Report product spills ≥ 268 gal. (based on diquat [RQ=1,000lbs] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

Section 16. Other information

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Reactivity - 0 Others - none

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

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

Date of Issue: May 22, 2017

Notice to reader

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SAFETY DATA SHEET

REWARD LS AND AQ

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

SECTION 1. IDENTIFICATION

Product name : REWARD LS AND AQ
Design code. : A12872A

Product Registration number : 100-1091

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC
Address : Post Office Box 18300
Greensboro NC 27419
United States of America (USA)

Telephone : 1 800 334 9481
Telefax : 1 336 632 2192

E-mail address : sds.requests@syngenta.com
Emergency telephone : 1 800 888 8372

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to Metals : Category 1

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Eye irritation : Category 2A

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Specific target organ toxicity - repeated exposure : Category 1 (Eyes)

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H290 May be corrosive to metals

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H372 Causes damage to organs (Eyes) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P234 Keep only in original container.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P390 Absorb spillage to prevent material damage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
diquat dibromide	85-00-7	37.3001

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

REWARD LS AND AQ

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

General advice	:	Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
If inhaled	:	Take the victim into fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control center immediately.
In case of skin contact	:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
If swallowed	:	If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.
Most important symptoms and effects, both acute and delayed	:	Inflammation of the mouth, throat and esophagus. Gastrointestinal discomfort Diarrhea
Notes to physician	:	Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15ml/kg body weight in children). NOTE: The use of gastric lavage without administration of an adsorbent has not shown any clinical benefit. Eye contact: Severe damage may be caused by apparently trivial contact and healing may be delayed. Medical supervision should continue until complete healing has occurred.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Extinguishing media - small fires Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Extinguishing media - large fires Alcohol-resistant foam or Water spray
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire fighting	:	As the product contains combustible organic ingredients, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.
Further information	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.
Special protective equipment for fire-fighters	:	Wear full protective clothing and self-contained breathing apparatus.

REWARD LS AND AQ

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.
Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.

Conditions for safe storage : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diquat dibromide	85-00-7	TWA	0.5 mg/m3	NIOSH REL
		TWA	0.5 mg/m3	OSHA P0
		TWA (Inhalable particulate matter)	0.5 mg/m3 (the cation)	ACGIH
		TWA (Respirable particulate matter)	0.1 mg/m3 (the cation)	ACGIH

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS

CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.
The extent of these protection measures depends on the actual risks in use.
Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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. The break through time depends amongst other things from the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color	:	dark brown
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	4 - 6
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Density	:	1.202 g/cm3 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	> 1202 °F / > 650 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

REWARD LS AND AQ

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

Reactivity	:	See section "Possibility of hazardous reactions".
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Corrosive in contact with metals
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	Aluminum Mild steel Iron
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat, female): 886 mg/kg
Acute inhalation toxicity	:	Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations. Acute toxicity estimate: 0.6059 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,050 mg/kg

Components:

diquat dibromide:

Acute oral toxicity	:	LD50 (Rat, female): 399.75 mg/kg Remarks: Lethal dose for man is approximately 4-6g of diquat (equivalent to approximately 60mg/kg). May cause nausea, vomiting, abdominal pain and diarrhea within a few hours of swallowing. Ulceration of lips, mouth, throat and intestine may follow within 24-48 hours. Kidney failure and liver damage may occur; in severe cases circulatory collapse; coma or death/cardiac arrest.
Acute inhalation toxicity	:	LC50 (Rat, male): 0.226 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male and female): > 792 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Components:

diquat dibromide:

Species : Rabbit
Result : Irritating to skin.
Remarks : Expert judgment
May also cause discoloration, cracking and loss of nails. Normal growth follows without delay.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : Eye irritation

Components:

diquat dibromide:

Species : Rabbit
Result : Eye irritation
Remarks : Expert judgment
This material has a delayed eye irritation effect. May lead to ulceration of cornea and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care recovery will be complete, even in severe cases.

Respiratory or skin sensitization

Product:

Species : Guinea pig
Result : Did not cause sensitization on laboratory animals.

Components:

diquat dibromide:

Species : Guinea pig
Result : May cause sensitization by skin contact.

Germ cell mutagenicity

Components:

diquat dibromide:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

diquat dibromide:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Components:

diquat dibromide:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT-single exposure

Components:

diquat dibromide:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure

Components:

diquat dibromide:

Target Organs : Eyes

Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Remarks : Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 65.43 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia similis (Water flea)): 0.59 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): 0.13 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.025 mg/l
Exposure time: 72 h

syngenta

REWARD LS AND AQ

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

Components:

diquat dibromide:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): Calculated 10.46 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): Calculated 2.49 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Navicula pelliculosa (Freshwater diatom)): Calculated 0.001148 mg/l Exposure time: 96 h NOEC (Navicula pelliculosa (Freshwater diatom)): Calculated 0.0005945 mg/l Exposure time: 96 h
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): Calculated 0.04726 mg/l Exposure time: 34 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): Calculated 0.0504 mg/l Exposure time: 21 d

Persistence and degradability

Components:

diquat dibromide:

Stability in water	:	Degradation half life: > 30 d Remarks: Persistent in water.

Bioaccumulative potential

Components:

diquat dibromide:

Bioaccumulation	:	Remarks: Low bioaccumulation potential.

Mobility in soil

Components:

diquat dibromide:

Distribution among environmental compartments	:	Remarks: immobile
Stability in soil	:	Dissipation time: 11 - 41 y Percentage dissipation: 50 % (DT50) Remarks: Persistent in soil.

Other adverse effects

Components:

diquat dibromide:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	8

IATA-DGR

UN/ID No.	:	UN 1760
Proper shipping name	:	Corrosive liquid, n.o.s. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG-Code

UN number	:	UN 1760
Proper shipping name	:	CORROSIVE LIQUID, N.O.S. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III

Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 1760
Proper shipping name	:	Corrosive liquids, n.o.s. (DIQUAT DIBROMIDE)
Class	:	8
Packing group	:	III
Labels	:	CORROSIVE
ERG Code	:	154
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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:
Caution
Harmful if inhaled.
Harmful if swallowed.
Causes moderate eye irritation.
Avoid breathing spray mist.
Avoid contact with skin, eyes or clothing.

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
diquat dibromide	85-00-7	1000	2680

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Corrosive to Metals
Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation

REWARD LS AND AQ

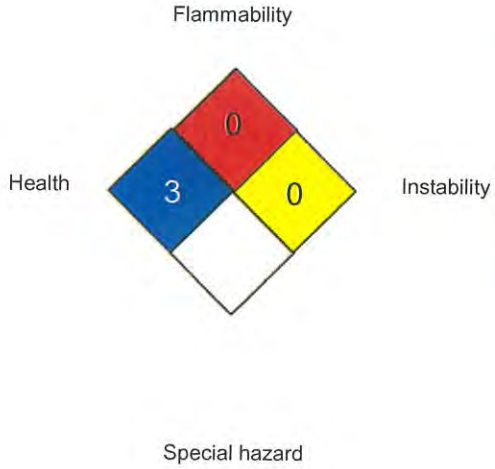
Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	03/10/2023	S00041670334	

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemi-

cals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 03/10/2023

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8

Attachment 7: Potential Environmental Impacts

Fluridone effects on non-target animals (including humans)

Any pesticide approved by the U.S. Environmental Protection Agency (USEPA) has undergone extensive testing to determine toxicity level through acute (high doses for short periods of time) and chronic (long term exposure) studies on animals (USEPA 1986). Sonar has been tested in both acute and chronic studies, as well as studies to examine genetic, cancer, and reproductive effects. Sonar was not shown to result in the development of tumors, adverse reproductive effects or offspring development, or genetic damage. Sonar has been texted extensively on target aquatic invasive plants, as well as in long-term residue monitoring studies in treated waters. Sonar is labeled with the signal word "caution" by the USEPA, indicating a level of toxicity lesser than those labeled with either "danger" (more toxic) or "poison" (most toxic).

The USEPA has approved Sonar's application in water used for drinking as long as residue levels do not exceed 0.15 parts per million (ppm) or 150 parts per billion (ppb). One ppm can be considered equivalent to approximately one second in twelve days or one foot in two hundred miles. Sonar applications can be made within one-fourth miles (1,320 ft.) of a potable water intake. This treatment concentration is well below the 0.15ppm (150ppb) allowable limit in water used for drinking (USEPA 1986). Human contact to fluridone may be through swimming in treated waters, drinking water from treated waters, by consuming fish from treated waters, or by consuming meat, poultry, eggs, or milk from livestock that were provided water from treated waters. There are no USEPA restrictions on the use of fluridone- treated water for swimming or fishing when used according to label directions
(USEPA 1986).

The maximum non-toxic dose is characterized by the "no-observable-effect-level" or NOEL for pesticides. The dietary NOEL for fluridone (the highest dose at which no adverse effects were observed in laboratory test animals fed Sonar) is approximately 8 milligrams of Sonar per kilogram of body weight per day (8mg/kg/day). A 70-kg (150lb) adult would have to drink over 1,000 gallons of water containing the maximum legal allowable concentrations in potable water (0.15 ppm) for a significant portion of their lifetime to receive and equivalent dose. A 20 kg (40lb) child would have to drink approximately 285 gallons of Sonar

treated water every day to receive a NOEL-equivalent dose. The risk therefore is negligible even if a human were to accidentally ingest water directly after Sonar treatment. As Sonar is only applied intermittently throughout the year and in limited areas, and because it disappears from the environment, continuous exposure over a lifetime for humans, mammals, and other animals is improbable. Fluridone has been tested for acute and chronic toxicity, as well as reproductive effects, on mammals (rats, mice, guinea pigs, rabbits, dogs), birds (bobwhite quail, mallard duck), insects (honey bee, amphibods, daphnids, midge, chironomid), earthworms, fish (fathead minnows, catfish, mosquitofish, rainbow trout), and other aquatic animals (Hamelink et al. 2009, Kamarianos et al. 1989, Muir et al. 1982, McCowen et al. 1979).

Exposure of test animals dermally (skin contact) has shown minimal toxicity to mammals by acute, concentrated contact. Chronic dermal exposure in mammals showed no signs of toxicity and slight skin irritation. Mammals were shown to excrete fluridone metabolites within 72 hours of varying doses of up to 1400 ppm/day (McCowen et al. 1979). A dietary NOEL was established for birds that may feed on aquatic plants or insects in treated waters. The risk to birds via diet was considered negligible. The acute median lethal concentrations of fluridone were 4.3+/-3.7mg/L for invertebrates and 10.4 +/- 3.0 mg/L for fish. Fish in treated ponds have shown no fluridone metabolites after treatment (Kamarianos et. al. 1989). Chronic studies showed no effects on daphnids, midge larvae, fathead minnows, or channel catfish and rapid rates of metabolic excretion (Hamelink et al. 2009, Muir et al. 1982). Insects that fed on bottom sediment had higher rates of fluridone intake and persistence than others (Muir et al. 1982). Honeybees and earthworms were not considered particularly sensitive to fluridone, even when directly dusted or placed in treated soil.

Fluridone has low bioaccumulation potential in fish, bird, or mammal tissues. Irrigation of crops using water treated with fluridone lead to only trace amounts detected in forage crops. Livestock consumption of Sonar-treated water resulted in negligible levels of Sonar in lean meat and milk. Sonar manufacturer recommendations indicate the livestock can be watered immediately from Sonar-treated water. The tolerance for milk is the same as for water (0.15 ppm).

Fluridone effects on non-target vegetation

The desired outcome is the elimination of all nuisance submerged aquatic plants in the treatment area. As floridone becomes more dilute in water leaving the treatment area, its lethality to plants outside the treatment area will also be reduced and then end. Madsen et al. (2002) evaluated non-target plant effects in three lakes in southern Michigan that were treated with low-dosages of

fluridone (Sonar AS) to control Eurasion watermilfoil. Despite achieving >93% reduction in the frequency of watermilfoil, native plant cover (composed mostly of *Ceratophyllum demersum, Chara spp., Heteranthera dui, Potamogeton spp., and Vallisneria Americana*) was maintained at >70% in the year of treatment and 1-year post treatment. Floating leaf plants (such as yellow pond lily) exhibiting chlorosis (due to lack of chlorophyll) usually recover within the year of treatment or become re-established within the following year (Kenaga 1992).

Diquat effects on non-target animals (including humans)

Diquat is a nonselective, contact algicide, defoliant, desiccant, and herbicide that is best applied when plant biomass and turbidity are low. Diquat will be applied at or below the maximum application rate of 2 gallons of Littora per surface acre per 4 feet of depth no more than once a month during the summer months (June-August), underwater via trailing hoses. The Eielson Central Heat and Power Plant Cooling Pond is a utility supporting waterbody and is not intended to be wildlife habitat.

Diquat is considered a moderately toxic material, labeled with the USEPA signal word "caution" for Littora or "Danger" for Reward (USEPA2002). Diquat exhibits low acute toxicity via oral and inhalation exposure, but has moderate to severe acute toxicity by dermal exposure. Humans drinking water containing diquat in excess of the maximum contaminant level (MCL) over many years could get cataracts. Diquat can cause eye irritation, and can cause serious burns and scarring of the cornea (Sax 1984). Diquat may be harmful to the gastrointestinal tract, kidneys, and liver of mammals, causing severe congestion and ulceration of stomach and gastrointestinal tract (Gosselin et al. 1984).

Diquat is not known to cause genetic changes and is therefore not considered a mutagen in acute tests with mice. Diquat does not cause tumors in rat studies both acute and chronic. Tests have been conducted on mice, rats, guinea pigs, rabbits, dogs, and cows (Cochrane et al. 1994, Hayes and Laws 1990). Diquat causes cataracts in dogs and rats, and developmental effects in rats and rabbits (Cochrane et al. 1994). Oral diquat doses are metabolized mainly in the intestines with excretion in feces, in tests with rats, hens, and cattle. Minute traces (0.004—0.015% of diquat were found in cow milk, and cows are considered sensitive to diquat exposure.

Diquat is considered moderately toxic to practically nontoxic to birds, depending on the species. In mallards acute toxicity (LD50 or lethal dose fifty in which half of the subjects are killed with that dose) was 564 mg/kg. For hens, oral LD50 was 200-400 mg/kg, for rats 120/mg/L, for mice 233 mg/kg, and 188 mg/L in rabbits. Chronic exposure at the 4-week no-observed-effect-level (NOEL) for increased relative liver weight in rats from dietary exposure to diquat was 7.2 mg/kg-day (Cochrane et al.1994).

Diquat is toxic to aquatic invertebrates, which display varying levels of sensitivity. Diquat has shown to be 300 more times toxic to amphipods than mayfly, with addisfly, damselfly, and dragonfly less sensitive in that order (Nicholson and Clerman 1974, Wilson and Bond 1969). The Maximum Contaminant Level (MCL)is 0.02 milligrams per liter (mg/L) or 20 ppb for diquat (USEPA 2002).

Applications of diquat in Lake Hood in 2023 and 2024 did not result in any observed impacts to waterfowl nor mammals (muscrats).

Diquat effects on non-target vegetation

Diquat is a quick-acting herbicide, causing injuring only to the parts of the plant to which it is applied (Hayes and Laws1990). Diquat is absorbed by plant leaves where it interferes with cell respiration and prevents update of oxygen. Plants are at the highest risk of negative impacts because of diquat's specific mode of action targeting them. Due to the mode of action (inhibition of photosynthesis) diquat can take from a few days to about 2 weeks to control aquatic weeds, particularly if low rate technology is an issue. In 2015, when diquat was applied to Lake Hood/Spenard, control was observed starting in 7 days. It has been suggested that much lower concentrations than are typically used for control of aquatic weeds may be effective for the control of more sensitive weeds like sago pondweed, coontail, American waterweed and southern naiad (Hulbert, 1987 and Tatum and Blackburn, 1965). These species are typically completely controlled at 0.5 and 1.0 ppm c.e. but effective (95% control) is obtainable at 0.25 ppm c.e. Concentrations of diquat sufficient to control milfoil, a species similar to elodea, are typically high enough to adversely impact most aquatic plants. Furthermore, concentrations effective against milfoil will normally not be effective for longer than two months in Northwest waters, which was also observed in Lake Hood/Spenard during 2015.

Therefore, in the Northwest, more than one treatment of diquat per season may be necessary to control milfoil (Water Investigations Branch, 1977 in Shearer and Halter, 1980). While sago pondweed is effectively controlled by diquat (Hiltibran et al, 1972), certain species of pondweed, including American pondweed (Hiltibran et al, 1972) Richardson's pondweed (Littora Label), reed canarygrass, white clover, Chara spp., Nuphar spp., Nymphaea spp., duckweed or curlyleaf pondweed are either not controlled by diquat or are controlled only for very limited periods of time (<6 weeks after application) (Eady andRenney, 1965; Ecology, 1992; Hulbert 1987; Tatum and Blackburn, 1965). In Lake Hood/ Spenard, Richardson's pondweed was observed to be growing back 7 weeks after the 2015 diquat treatment. Diquat residue studies suggest that diquat is not persistent in water, as it binds to suspended particles in the water, which are then taken up by plants. The half-life is less than 48 hours in water. Affected plants decompose and release diquat, which is then degraded by microbes, photodegraded by sunlight (within 1 to 3 weeks), or adsorbed to sediment particles. Adsorbed sediment diquat is also degraded by microbial activity, although diquat has been found in the bottom soil of pools and ponds four years after application. Adsorption rates are highest in loam, sandy clay loam, and sandy loam (Cochrane et al. 1994). Granular activated carbon can be used to remove diquat to below MCL.

In 2023 and 2024 applications of diquat to Lake Hood, no impacts to non-target (e.g., shoreside) vegetation was observed.

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Attachment 8 - Pesticide-Use Permit Application

Eielson AFB, Central Heat and Power Plant (CHPP) – Cooling Pond

Precautions planned to protect human health, safety, welfare, animals, and the environment

1. All applications will be made by Alaska DEC Certified Pesticide Applicators with the Category 6 – Aquatic Pest Control endorsement. The applicators will carefully follow all label instructions regarding required PPE, pesticide handling, mixing, and container disposal.
    a. EPA approved label instructions are intended to protect human plus animal health and the environment.
2. Pesticide handling procedures in this project are designed to prevent or limit the possibilities of a spill, limit the quantity that could be spilled at one time, and contain any spills in the unlikely event that occurs.
    a. The opening and dispensing of pesticide containers – the step at which a spill is most likely - will be performed in the boat on water (so that any accidental spill will be contained in the boat or released in the treatment area) or within a duck pond on land.
3. No more than one pesticide container will be open at one time to limit the amount that could be spilled. The pesticide containers that will be used in the project are small volume: 45 pounds for SonarOne or 2.5 gallons for Littora or Reward. So those volumes represent that maximum that could be spilled at one time.
4. The pelleted pesticide (SonarOne) will be opened and its complete contents immediately poured into the hopper of the fertilizer spreader on the boat
    a. If spilled, these dry clay pellets would be picked up and collected (for disposal or application in the treatment area)
5. Liquid pesticide (Littora) will be opened and its complete contents immediately poured into the 45-gallon spray tank in the boat.
6. Pesticide containers will never be left open and unattended while they contain any pesticide.
7. Pesticides will be transported and stored in their original sealed containers and boxes, which are designed to withstand long distance transport and rough handing without spills.
8. A spill kit will be carried with absorbent materials, heavy duty contractor trash bags, and a shovel in the unlikely event that pesticide is spilled on the ground
9. Eielson AFB is not open to the general public. The CHPP Cooling Pond is accessible to people with base access, but there are several other lakes that are designated and are far superior for recreational purposes. The Cooling Pond is closed to fishing, swimming, and boating. "No Fishing" signs are posted around the Pond. Prior to application, notification signs about the herbicide application will be placed around the Pond.

Attachment 9 - Liability Insurance

- N/A for Government agencies

Attachment 10 – Not Applicable

- No endangered nor threatened species in the treatment area

Attachment 11 – APDES Permit

- DEC APDES NOI will be attached here

Pesticide General Permit (PGP) Notice of Intent (NOI)

version 1.22

(Submission #: HQD-RVB8-BXYYM, version 1)

Details

Site: Eielson AFB

Submission ID HQD-RVB8-BXYYM

Form Input

Form Instructions

Please see:
Instructions for completing the NOI for Storm Water discharges associated with activity under the APDES PGP.

Pesticide General Permit - Decision Tool

Do I need an APDES permit for my pesticide applications?

Will you be applying or hiring someone to apply pesticides that will result in a discharge to waters of the U.S. (as defined in Appendix C of the permit)?
Yes

Is the pesticide that you will apply a biological pesticide, or a chemical pesticide that will leave a residue?
Yes

Will your discharges to waters of the U.S. be solely a result of agricultural stormwater runoff or irrigation return flow?
No

I need an APDES permit for my pesticide application in the State of Alaska. Am I eligible for coverage under DEC's APDES Pesticide General Permit (PGP)?

Within the Metlakatla Indian Reservation, or within the Denali National Park Preserve.

Will you be applying pesticides in any of these locations above?
No

Mosquito and Other Flying Insect Pest Control
Weed and Algae Control
Animal Pest Control
Forest Canopy Pest Control

Will your pesticide application be for one of the above pesticide use patterns? (See Part 1.1.1 of the permit for further detail.)
Yes

- to waters identified as impaired by a substance which either is an active ingredient in that pesticide or is a degradate of such an active ingredient (Part 1.1.2.1); or
- to a Tier 3 water, unless the purpose is to restore or maintain water quality or protect public health, and the resulting discharge

either does not degrade water quality or only degrades water quality on a short-term or temporary basis (Part 1.1.2.2); or
- a discharge that is previously or currently covered by another APDES permit.

Will your discharge from the application of pesticides be to any of the above?
No

I need an APDES permit for my pesticide application and I am eligible for coverage under DEC's APDES Pesticide General Permit (PGP). What is required of me under the PGP?

- Decision Maker: Any entity with control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to waters of the United States.
- Applicator: Any entity who performs the application of a pesticide or who has day-to-day control of the application (i.e., they are authorized to direct workers to carry out those activities) that results in a discharge to waters of the United States.

Are you a decision-maker or a for-hire applicator? (See Part 1.0 and Appendix C for definitions.)
Decision Maker

Listings of endangered and threatened species and federally-listed critical habitat in Alaska and interactive maps is available at:

National Oceanic and Atmospheric Administration (NOAA) Fisheries - Alaska Regional Office:
https://www.fisheries.noaa.gov/region/alaska
Interactive map: https://www.habitat.noaa.gov/apps/efhmapper/
U.S. Fish and Wildlife Service (USFWS): https://ecos.fws.gov/ecp/
Interactive map: https://ecos.fws.gov/ecdms4/

Will any of your discharges be to waters of the U.S. containing Federally Listed Essential Endangered and Threatened Species or Designated Critical Habitat (Listed above)?
No

- to control mosquitoes for public health, nuisance control or animal welfare;
- to control weeds and algae;
- to control animals for public health, nuisance control or resource management; or
- to control forest canopy pests?

Are you a federal or state agency with the responsibilities above?
Yes

You are reminded of the following requirements:

1. Submit a Notice of Intent (NOI) at least 30 days prior to discharge (see Permit Part 1.2.2 and 1.2.3 for more details):
a. For applications that discharge to waters of the U.S. containing Federally Listed Essential Endangered and Threatened Species and Designated Critical Habitat (Listed) (See Permit Part 1.6),
i. Notify the Service (NMFS or FWS) 60 days prior to initial discharge, and
ii. Provide a copy of the notification and any water quality based recommendations from the Service to DEC when submitting the NOI
2. Annual permit fee ($250), (see Permit Part 1.2.3)
3. Technology-Based Effluent Limitations, Part 2.2: Decision-makers' Responsibilities for all Decision-makers
4. Technology-Based Effluent Limitations, Part 2.2: Decision-makers' Responsibilities for Decision-makers Required to Submit NOIs
5. Water Quality, Part 3
6. Monitoring, Part 4
7. Pesticide Discharge Management Plan (PDMP) , Part 5 (not required for applications made in response to Declared Pest Emergencies)
8. Corrective Action, Part 6
9. Recordkeeping, Parts 7.0, 7.1, 7.4, and 7.5
10. Annual Report , Part 7.6
11. Standard Permit Conditions, Appendix A

For any applications where you self-apply the pesticides, your requirements also include:

a. Technology-Based Effluent Limitations, Part 2.0: Applicators' Responsibilities
b. Monitoring for Applicators, Part 4.1

Contact Information (1 of 4)

Required Contacts

The following contacts are required for this application. Multiple roles may be selected per contact.
- Applicant (Permittee)
- Billing Contact
- Application Preparer
- Onsite *or* Operator Contact

Contact Role(s)
Applicant
Operator

Contact

Prefix
Mr.

First Name	Last Name
Col Matthew	Johnston

Title
Base Commander, 354th Fighter Wing

Organization Name
Eielson Air Force Base

Phone Type	Number	Extension
Business	9073775182	

Email
john.haddix@us.af.mil

Mailing Address

2310 Central Ave, Attn John Haddix
Eielson AFB, AK 99702

Operator Type
Federal government

Are you a large entity as defined in Appendix C of the permit?
Yes

> You are required to develop a Pesticide Discharge Management Plan (PDMP) and submit an Annual Report reflecting all pesticide uses for which you are requesting permit coverage under this NOI. Please download, complete, and attach the PDMP in the 'Attachment Section' of this form.

Contact Information (2 of 4)

Required Contacts

The following contacts are required for this application. Multiple roles may be selected per contact.
- Applicant (Permittee)
- Billing Contact
- Application Preparer
- Onsite *or* Operator Contact

Contact Role(s)
Onsite Contact
Billing Contact
Application Preparer

Contact

Prefix
Mr.

First Name	Last Name
John	Haddix

Title
Natural Resources Chief

Organization Name
Eielson Air Force Base

Phone Type	Number	Extension
Business	9073775182	

Email
john.haddix@us.af.mil

Mailing Address

2310 Central Ave

Eielson AFB, AK 99702

Contact Information (3 of 4)

Required Contacts

The following contacts are required for this application. Multiple roles may be selected per contact.
- Applicant (Permittee)
- Billing Contact
- Application Preparer
- Onsite *or* Operator Contact

Contact Role(s)
Application Preparer
Contractor
Consultant
Subcontractor

Contact

Prefix
Mr.

First Name	Last Name
TIMOTHY	STALLARD

Title
Member manager

Organization Name
Alien Species Control, LLC

Phone Type	Number	Extension
Business	9073472214	

Email
weeds.free.ak@gmail.com

Mailing Address

11361 Mael St

Anchorage, AK 99516

Contact Information (4 of 4)

Required Contacts

The following contacts are required for this application. Multiple roles may be selected per contact.
- Applicant (Permittee)

- Billing Contact
- Application Preparer
- Onsite *or* Operator Contact

Contact Role(s)
Application Preparer

Contact

Prefix
Mr.

First Name	Last Name
Michael	Porto

Title
Deputy Base Civil Engineer

Organization Name
Eielson Air Force Base

Phone Type	Number	Extension
Business	9073775103	

Email
michael.porto.1@us.af.mil

Mailing Address

2310 Central Ave

Eielson AFB, AK 99702

Pesticide Management Areas (1 of 1)

Eielson AFB CHPP Cooling Pond

Pesticide Management Area #
EAFB CHPP

Pesticide Management Area Name
Eielson AFB CHPP Cooling Pond

Pestice Area Map.

Geospatial File is **preferred** provided in either **kml** or **GeoJSON** format projected in EPSG:4326 / WGS84.

Pesticide Area Map
Eielson_CoolingPond_ShapefilePackage.zip - 10/21/2025 03:22 PM
Comment
Zip file attached with GIS Shapefile package

Pesticide Area Details
Cooling pond for the Eielson AFB Central Heat and Power Plant (CHHP). Pond is 26 acres with an average depth of 16 feet.

Map Coordinate Info

Enter map coordinates of Pesticide Management Area.
Format is decimal degrees (e.g., (61.216962, -149.878897) and the WGS84 standard coordinate system.
To describe two-dimensional area (polygon) use multiple latitude and longitude coordinates, or provide the approximate center point of the area and provide a GIS shapefile or map of the area (PDF).

Map Coordinates

Label/Description	Latitude	Longitude
Approximate middle point of cooling pond	64.669302	-147.064276

Pesticide Use Patterns to be included in this Pest Management Area
Weed and Algae Pest Control

Pesticide Products

Pest(s) to be controlled	Pesticide Product Name	EPA Registration Number
Coontail and other nuisance aquatic vegetation	SonarOne	67690-45
Coontail and other nuisance aquatic vegetation	Littora	67690-53
Coontail and other nuisance aquatic vegetation	Reward	100-1091

Pesticide Applicator Contact Information

Prefix
Mr.

First Name **Last Name**
TIMOTHY STALLARD

Title
Member manager

Organization Name
Alien Species Control, LLC

Phone Type **Number** **Extension**
Mobile 9073472214

Email
weeds.free.ak@gmail.com

Address
11361 Mael St
Anchorage, AK 99516

Primary Ownership Type
Federal Facility (U.S. Government)

Receiving Waters

Receiving Waters Coverage
Coverage requested specifically for the following waters of the U.S. within the Pest Management Area identified above.

Please describe the waters for which you're requesting coverage
NONE PROVIDED

Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the U.S.?
No

Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis
Maintaining the flow of cooling water to the Eielson AFB Central Heat and Power Plant is a critical part of safe operations of the power plant (which is essential to operating this Air Force Base). Heavy growth of coontail and other nuisance aquatic vegetation are getting drawn into the cooling water intake and clogging the screens. Aquatic herbicide (pesticide) application is needed to greatly reduce the volume of plant growth to protect the flow of cooling water to the power plant. Aquatic herbicides with the active ingredients of floridone and diquat (that are proposed for this project) have been used in numerous waterbodies throughout Alaska to control invasive Elodea or nuisance aquatic vegetation without any notable degradation of water quality.

Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient of the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the permit.
Impaired Waters List

Please check one
Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

Attachments

Please use the link below to download the ADEC Pesticide Discharge Management Plan (PDMP) Template or attach your own version of a PDMP.
ADEC Pesticide Discharge Management Plan (PDMP) Template

Pesticide Discharge Management Plan (PDMP) Attachment
Tab 2 EielsonAFB_CHPP_PDMP.pdf - 04/27/2026 03:44 PM
Comment
NONE PROVIDED

Document Attachments
NONE PROVIDED
Comment
NONE PROVIDED

Agreements and Signature(s)

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed By john.haddix@us.af.mil john.haddix@us.af.mil on 04/28/2026 at 7:55 AM
gR0kBOAYPI+HU63Ys+S9U1qT92v2ETm3ljRRywiTNGbCB+GRe+iUSWoAkntseJOIEcr+K92OJQT/27OKptUASQ==