



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources

DIVISION OF AGRICULTURE

Central Office

1801 S. Margaret Drive Suite 12
Palmer, AK 99645-6736
Main: 907.745-7200
Fax: 907-745-7112

Northern Region Office

3700 Airport Way
Fairbanks, AK 99709
Main: 907.374-3716
Fax: 907.328-1951

May 5, 2020

Alaska Department of Environmental Conservation
Pesticide Control Program
1700 E. Bogard Road, Building B Suite 103
Wasilla, AK 99654 [

To whom it may concern,

Please review the following Pesticide-Use Permit Application for the Interior Alaska Elodea Eradication Project at Hot Springs Slough, in Manley Hot Springs. This project proposes to use the aquatic herbicide fluridone (Sonar Genesis and Sonar One) to treat the elodea infestation over the course of 2-3 years, with the goal of eradicating it from this water body. The following information includes the Pesticide Use Permit along with 8 attachments as listed in the table of contents. Please do not hesitate to contact me with questions regarding this application. Thank you.

Sincerely,

Daniel Coleman
Natural Resource Specialist
ADNR Division of Agriculture
Alaska Plant Material Center
5310 S Bodenbug Spur
Palmer, AK 99645

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Pesticide-Use Permit Application Packet To Apply Pesticides to Water

Instructions

- Pesticide-use permits are required under the following circumstances:
 - **Aerial:** Application of pesticide from any type of aircraft or hovercraft, regardless of who owns the land being treated.
 - **Aquatic:** Application of pesticide to a pest located in a water body, including creeks, rivers, streams, ponds, wetlands, and swamps, regardless of who owns the surrounding lands. For vegetation, if the roots are in the water, this is considered an aquatic application even if only the emergent vegetation is treated.
 - **Public Project On Multiple Properties:** Pesticide program or project by a government entity (state, borough, or city) that applies pesticide to more than one property.
- This packet contains instructions and application forms for obtaining a permit to apply pesticides to waters of the state, including both fresh and marine waters.
- **Each** item must be completed and included in your application. Please address each item. If the required information is not applicable please include a brief explanation.
- An Alaska Pollution Discharge Elimination System (APDES) Permit from the DEC Division of Water is required before a pesticide may be applied to surface water. The APDES permit must be obtained **prior** to applying for an ADEC Pesticide Use Permit. For more information, contact Jim Rypkema at james.rypkema@alaska.gov, or (907) 334-2288.
- Check off each item as you complete it, and submit the entire packet and required information to the DEC Pesticide Program, at the address shown below.
- A notice of application is required for ALL permits. Once your application is complete, ADEC will provide the required text for you to post in local newspapers. You must also submit an affidavit of publication once publication is complete. 18 AAC 15.020, 18 AAC 15.050, 18 AAC 90.520
- The requested information in this form represents the minimum that is required under 18 AAC 90, 18 AAC 15.020, and 18 AAC 15.050; additional information can and should be provided as necessary or applicable.
- Please do not staple items, renumber required attachments, or alter the form in any way.
- You may submit all items EXCEPT the signature page electronically. The original signed signature page must be mailed or delivered to the address below.

Alaska Department of Environmental Conservation
Pesticide Control Program
1700 E. Bogard Road, #B103
Wasilla, Alaska 99654
907-376-1870
www.dec.state.ak.us/eh/pest/



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 Alaska Department of Natural Resources

Contact person Daniel Coleman

Mailing address 5310 Bodenburg Spur

City, State, Zip Palmer, AK 99645

Telephone Number 907-745-8721

Email Address daniel.coleman@alaska.gov

Is the applicant a government entity?

18 AAC 90.620



Yes



No

APPLICATOR (Person, organization, or business who will be applying the pesticides)

MUST BE A CERTIFIED APPLICATOR

Organization/business Fairbanks Soil and Water Conservation District

Contact person Aditi Shenoy

Mailing address 590 University Ave., Suite 2

City/State/Zip Fairbanks, AK 99709

Telephone Number 907-479-1213 Ext. 104

Email Address aditi.shenoy@gmail.com

Pesticide Applicator Certification Number 10426-2206-6/9

18 AAC 90.515(13)



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Two: Treatment Location Information
	1	<p>Treatment site location: 18 AAC 90.515(8)(A)</p> <p>Street Address _____</p> <p>City _____</p> <p>OR</p> <p>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.</p> <div><p>Hot Springs Slough encompasses T2NR15W Sections 15,16,17,19, and 20, and T2NR16W Sections 21,22,23,24,25,26, and 27. The treatment area extends from 65.001566, -150.634400 at the upstream end to 64.978984, -150.814423 at the downstream end. It can be accessed at the end of the Elliot Highway, in the town of Manley Hot Springs approximately 160 miles west of Fairbanks.</p></div>
	2	<p>Describe treatment site (lake, stream, river, wetland, etc.), including inflow and outflow characteristics, stream flow, etc.:</p> <div><p>Hot Springs Slough is an 8-mile long, shallow waterway which drains into the Tanana River near the community of Manley Hot Springs at the end of the Elliot Highway. The average depth of the slough is approximately 5 ft. We measured discharge rate in Hot Springs Slough near the upstream end of the treatment area on 9/11/19, and the total discharge rate was 8.31 cubic ft per sec.</p></div>
	3	<p>List each public or private drinking water system within 200 feet of the treatment area. 18 AAC 90.515(8)(D)</p> <div><p>According to the EPA's Safe Drinking Water Information System and ADN's Water Databases, there are no drinking water wells within 200 ft of the treatment area.</p></div>
	4	<p>Approximate size of the treatment area. Please specify units (acre feet, flow rate, etc. The units should match units on the pesticide label):</p> <p>18 AAC 90.515(8)(B)</p> <div><p>The treatment area is approximately 305 surface acres in area, and 1,295 acre-ft in volume.</p></div>



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Two: Treatment Location Information
	5	<p>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</p> <div><p>The treatment location has not been identified as habitat for an endangered or threatened species. However, downstream of the treatment location, Yukon River Chinook salmon (<i>Oncorhynchus tshawytscha</i>) has been identified as a State of Alaska Special Status Species, an is a fish stock of concern.</p></div>

✓	#	Part Three: Treatment Information																					
	1	<p>List the dates & times (or range of dates and times) that pesticide is proposed to be applied: 18 AAC 90.515(9)</p> <div><p>As the goal is eradication, several treatments over the course of 2-3 years are planned in this water body. However, not all treatments may be needed depending on the results of post-treatment assessments of herbicide efficacy after the initial treatment.</p><p>Treatment 1: SonarGenesis and SonarOne June-July 2020 Treatment 2: SonarOne August 2020 Treatment 3: SonarOne September 2020 Treatment 4: SonarGenesis and SonarOne June-July 2021 Treatment 5: SonarOne August 2021 Treatment 6: SonarOne September 2021 Treatment 7: SonarGenesis and SonarOne June-July 2022 Treatment 8: SonarOne August 2022 Treatment 9: SonarOne September 2022</p></div>																					
	2	<p>Target pest of pesticide project: 18 AAC 90.515(2)</p> <table border="1"><thead><tr><th>✓</th><th>Category</th><th>List specific targets</th></tr></thead><tbody><tr><td></td><td>Fungus</td><td></td></tr><tr><td>✓</td><td>Vegetation</td><td><i>Elodea</i> spp.</td></tr><tr><td></td><td>Insects</td><td></td></tr><tr><td></td><td>Fish</td><td></td></tr><tr><td></td><td>Rodents</td><td></td></tr><tr><td></td><td>Other</td><td></td></tr></tbody></table>	✓	Category	List specific targets		Fungus		✓	Vegetation	<i>Elodea</i> spp.		Insects			Fish			Rodents			Other	
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Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Three: Treatment Information
	3	<p>Provide a description of the method of pesticide application, including details about any equipment that will be used. 18 AAC 90.515(10)</p> <div><p><u>Materials and pesticide application equipment will be transported to the treatment site by truck. Pesticide dispersal will be made directly into the pond by DEC-certified pesticide applicators from a motorboat.</u></p><p><u>Liquid application:</u> Liquid herbicide will be applied using a pump connected to a weighted hose mounted to the boat. Sonar Genesis will be mixed with lake water in a two 25-gallon tanks with pump attachments. The liquid will be dispersed through the hose evenly throughout the treatment area.</p><p><u>Pellet application:</u> Pellets will be applied using a forced air blower system mounted to the boat. The blower system will be calibrated using clay pellets with the same size and weight as the herbicide pellets. A set weight of training pellets will be passed through the blower to measure time required to deliver, and this will be repeated several times to obtain an average. That information will be used to determine how many minutes are required to deliver the full prescription to the treatment area. Application routes will be determined based on the swath width of the blower. Boat speed will be determined by the amount of time required to deliver the prescribed weight of pellets to the treatment area.</p></div>



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Four: Pesticide List
	1	<p>List the common or brand name of EACH proposed pesticide and adjuvant. 18 AAC 90.515(1)</p> <ul style="list-style-type: none">• 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. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><p>The active ingredient in both pesticides is fluridone: SonarGenesis (USEPA 67690-54; SLN AK-16-0001) SonarOne (USEPA 67690-45)</p></div>
	2	<p>Total number of pesticides and adjuvants listed: <u>2</u></p>

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".



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Five: Product Information For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. <small>18 AAC 90.515(1-6)</small>										
	1	Common or brand name of proposed pesticide or adjuvant detailed on this sheet: <u>SonarGenesis</u>										
	2	EPA Registration Number (not applicable for adjuvants): <u>67690-54; SLN AK-16-0001</u>										
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): <u>Liquid</u>										
	4	Name of the seller or distributor from whom the pesticide will be obtained: <u>SePRO Corporation</u> OR Check here if pesticide is from a previous surplus <input type="checkbox"/> <small>18 AAC 90.515(1)</small>										
	5	List each active ingredient (or principal functioning agent) in this product AND its percent composition: <table border="1"><thead><tr><th>Active Ingredient</th><th>% composition</th></tr></thead><tbody><tr><td><u>Fluridone</u></td><td><u>6.3%</u></td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Active Ingredient	% composition	<u>Fluridone</u>	<u>6.3%</u>						
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	6	Pesticides: list the adjuvant (if any) it will be mixed with. Adjuvants: list the pesticides it will be mixed with. _____										



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	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)								
		<p>Product Name <u>Sonar Genesis</u></p> <p>Which treatment scenarios are described in questions 6-8?</p> <p>_____</p>								
	7	<p>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)</p> <p>Not applicable – product won't be diluted <input type="checkbox"/></p> <p>UNITS MUST MATCH LABEL INSTRUCTIONS</p> <table border="1"><tr><td>Amount of product (list units)</td><td>5 gallons of product</td></tr><tr><td>Amount of diluent (list units)</td><td>45 gallons of water</td></tr></table> <p>Example: <table border="1"><tr><td>3 oz product</td></tr><tr><td>1 gallon water</td></tr></table></p>	Amount of product (list units)	5 gallons of product	Amount of diluent (list units)	45 gallons of water	3 oz product	1 gallon water		
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3 oz product										
1 gallon water										
	8	<p>Rate of application that will be used for this project: 18 AAC 90.515(6)</p> <p>UNITS MUST MATCH LABEL INSTRUCTIONS</p> <p>Amount of product (list units) <table border="1"><tr><td>1.97 gallons</td></tr></table> per <table border="1"><tr><td>acre</td></tr></table></p> <p>pg 4 of SonarGenesis label and pg 3 of SonarGenesis SLN label</p> <p>On which page of the label is this application rate found? _____</p> <p>Examples: <table border="1"><tr><td>15 gallons</td></tr><tr><td>6 lbs</td></tr><tr><td>Spray to wet</td></tr></table> per <table border="1"><tr><td>acre/foot</td></tr><tr><td>1000 gallon</td></tr><tr><td></td></tr></table></p>	1.97 gallons	acre	15 gallons	6 lbs	Spray to wet	acre/foot	1000 gallon	
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Application Rate Calculation

The application rate is calculated as follows for a desired concentration of 150ppb for a period of 45 days:

$$8.31 \text{ cfs} \times 1.98 \times 150\text{ppb} \times 0.0054 = 13.33 \text{ gallons per day}$$

$$(13.33 \text{ gallons/day} \times 45 \text{ days}) / 305 \text{ acres} = 1.97 \text{ gallons per acre}$$



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Five: Product Information For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. <small>18 AAC 90.515(1-6)</small>										
	1	Common or brand name of proposed pesticide or adjuvant detailed on this sheet: <u>SonarOne</u>										
	2	EPA Registration Number (not applicable for adjuvants): <u>67690-45</u>										
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): <u>Pellet</u>										
	4	Name of the seller or distributor from whom the pesticide will be obtained: <u>SePRO Corporation</u> OR Check here if pesticide is from a previous surplus <input type="checkbox"/> <small>18 AAC 90.515(1)</small>										
	5	List each active ingredient (or principal functioning agent) in this product AND its percent composition: <table border="1"><thead><tr><th>Active Ingredient</th><th>% composition</th></tr></thead><tbody><tr><td><u>Fluridone</u></td><td><u>5%</u></td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Active Ingredient	% composition	<u>Fluridone</u>	<u>5%</u>						
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Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Five: Product Information For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. <small>18 AAC 90.515(1-6)</small>						
	6	<p>Pesticides: list the adjuvant (if any) it will be mixed with.</p> <p>Adjuvants: list the pesticides it will be mixed with.</p> <p>_____</p>						
		<p>Product Name <u>SonarOne</u></p> <p>Which treatment scenarios are described in questions 6-8?</p> <p>_____</p>						
	7	<p>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: <small>18 AAC 90.515(6)</small></p> <p>Not applicable – product won't be diluted <input checked="" type="checkbox"/></p> <p>UNITS MUST MATCH LABEL INSTRUCTIONS</p> <table border="1"><tr><td>Amount of product (list units)</td><td></td></tr><tr><td>Amount of diluent (list units)</td><td></td></tr></table> <p>Example:</p> <table border="1"><tr><td>3 oz product</td></tr><tr><td>1 gallon water</td></tr></table>	Amount of product (list units)		Amount of diluent (list units)		3 oz product	1 gallon water
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Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	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)																				
	8	<p>Rate of application that will be used for this project: 18 AAC 90.515(6)</p> <p>UNITS MUST MATCH LABEL INSTRUCTIONS</p> <p>Amount of product (list units) <input type="text" value="19.66lbs"/> per <input type="text" value="acre"/></p> <p>On which page of the label is this application rate found? <input type="text" value="pg 4"/></p> <p>Examples: <table border="1"><tr><td>15 gallons</td><td>per</td><td>acre/foot</td></tr><tr><td>6 lbs</td><td>per</td><td>1000 gallon</td></tr><tr><td>Spray to wet</td><td></td><td></td></tr></table></p>	15 gallons	per	acre/foot	6 lbs	per	1000 gallon	Spray to wet													
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Application Rate Calculation

The application rate is calculated as follows for a desired concentration of 150ppb for a period of 45 days:

$$8.31 \text{ cfs} \times 1.98 \times 150\text{ppb} \times 0.054 = 133.27 \text{ lbs per day}$$

$$(133.27 \text{ lbs/day} \times 45 \text{ days}) / 305 \text{ acres} = 19.66 \text{ lbs per acre}$$



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Six: Storage and Disposal	18 AAC 90.615
	1	<p>List the location where pesticide will be stored prior to final disposal.</p> <p>Physical Address <u>Chena Lake Recreation Area, 3780 Laurance Rd.</u></p> <p>City, State, Zip <u>North Pole, AK 99705</u></p>	
	2	<p>Describe how and where excess <u>mixed</u> pesticides and adjuvants will be disposed:</p> <div><p>There will be no excess mixed product since the product will not be mixed and stored in advance. The concentrate will be metered and mixed with slough water during the pumping application process. SonarOne will not be mixed.</p></div>	
	3	<p>Describe how and where empty pesticide and adjuvant containers will be disposed:</p> <div><p>Empty pesticide containers will be triple-rinsed, punctured, and crushed on-site. These containers will later be disposed of in the landfill.</p></div>	
	4	<p>If excess material or empty containers will be disposed in a landfill, provide the following information:</p> <p>Facility Name <u>Fairbanks Landfill, 455 Sanduri Street</u></p> <p>City, State, Zip <u>Fairbanks, AK 99701</u></p> <p>Date when disposal site was contacted to confirm acceptance of materials: <u>5/7/19</u></p>	



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

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.		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.		Proof of liability insurance (for non-government applicants)
	10.		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).



Pesticide-Use Permit Application Packet To Apply Pesticides to Water

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, Robert Carter certify under penalty of perjury, that all of the information
And exhibits in this application and attached documentation are true, accurate, and complete.

Applicant's Signature

05

Month

-

04

Day

-

2020

Year

Alaska Plant Materials Center Manager/ State Agronomist

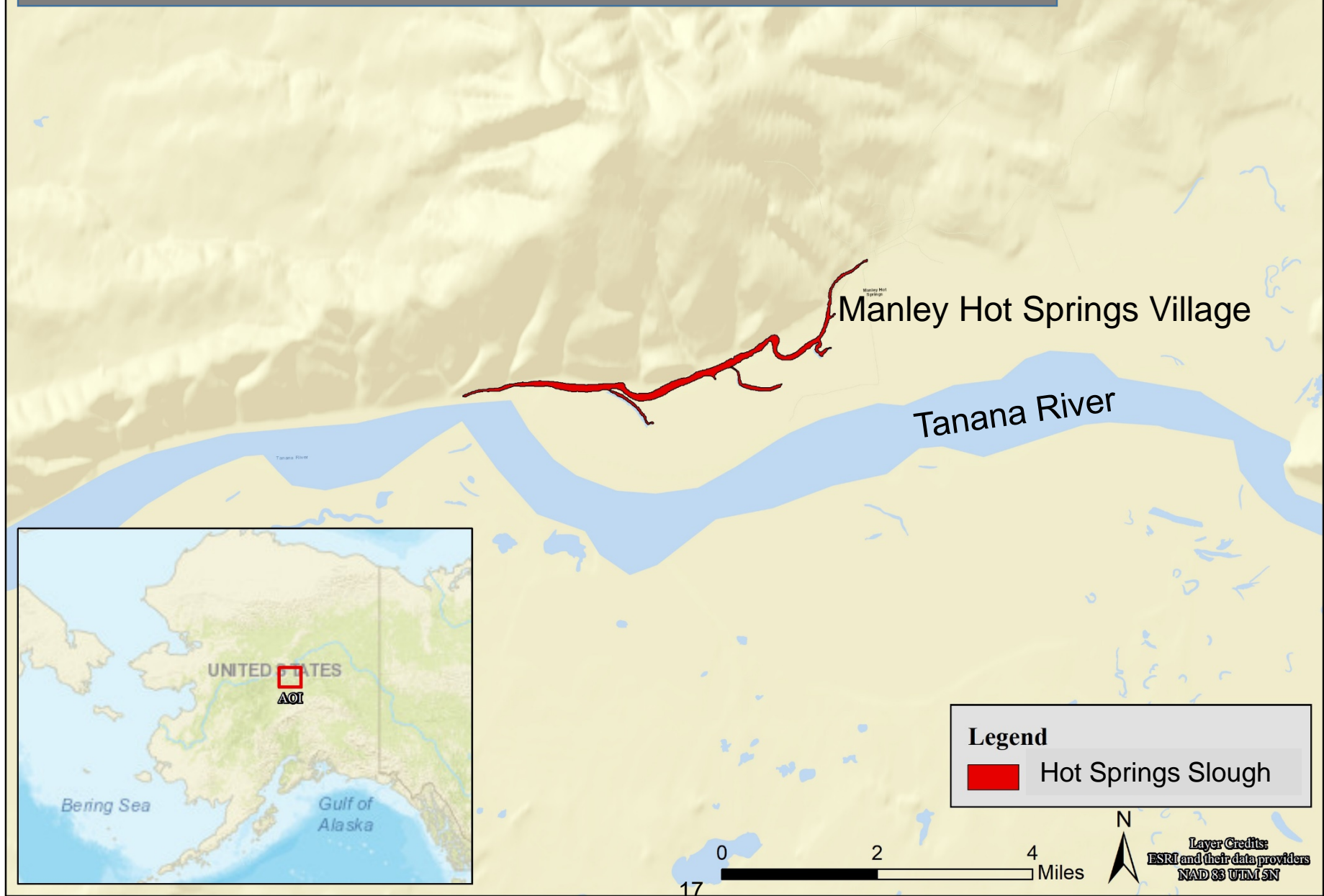
Applicant's Title

Supporting Document 1: Justification for the Pesticide Application

Elodea is a highly invasive and particularly injurious aquatic perennial. In areas where it is considered invasive, *Elodea* spp. has compromised water quality, grown so abundantly that boat traffic is hindered, reduced dissolved oxygen, and severely impacted native fisheries. Elodea reproduces vegetatively, so a single plant fragment is all that is needed to infest a water body that it spreads to. Elodea can be spread readily from existing infestations by floatplanes, boat, water flow, and wildlife. Hot Springs Slough flows past the town of Manley Hot Springs and is adjacent to Manley Native Village and Bean Ridge Corporation lands. It can be accessed by road at the end of the Elliot Highway. The slough is a major access point for subsistence hunting and fishing activities in the area, and both boats and floatplanes access the slough regularly. Due to the boat and floatplane traffic in this slough, and its proximity to Totchaket Slough (where elodea is being treated successfully with aquatic herbicide), there is not only potential for elodea to be spread to other uninfested water bodies in the Tanana and Yukon River watersheds, but also for it to reinfest Totchaket Slough.

Herbicide control of elodea is the most effective method to achieve eradication and prevent further spread. Physical or mechanical controls for this plant are limited as elodea reproduces readily from small fragments. Any physical disturbance of the plant easily breaks the stems into pieces that are capable of reproducing in new locations. Fluridone is the safest and most effective herbicide for eradication. Fluridone is also selective in killing elodea at low application rates that have limited impacts on many other native aquatic plants, as observed in other elodea eradication projects in Alaska. Moreover, fluridone has low toxicity to fish and other non-target species. We are using an integrated pest management strategy to eradicate elodea from all known infestations in interior Alaska, conduct surveys to detect any new elodea infestations, and provide information on this and other potential invasive aquatic plants to the public to help prevent further introductions into Alaska's waters.

Hot Springs Slough location within the State of Alaska



Hot Springs Slough Treatment Area in Manley Hot Springs Village

Supporting document 3: Map of treatment area

Legend



Application Zone

0 0.5 1 Miles



Layer Credits:
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NAD 83 UTM 5N

SonarOne®

Aquatic Herbicide

SPECIMEN



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(1H)-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.)

Refer to the inside of the label booklet for additional precautionary Statements and Directions for Use including Storage and Disposal.

NOTICE: Read the entire label before using. Use only according to label directions. Before buying or using this product, read *Warranty Disclaimer* and *Misuse* statements inside label booklet. If terms are unacceptable, return at once unopened.

SonarOne is a registered trademark of SePRO Corporation
SePRO Corporation
11550 N. Meridian Street, Suite 600 • Carmel, IN 46032, U.S.A.
EPA Reg. 67690-45 FPL20170208

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.

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.	

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.

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 hydrosol in 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.

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:
 - o A FasTEST has been run and the concentration in water at the intake is less than 1 ppb; or
 - o 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:
 - o For the irrigation of woody ornamental plants, a FasTEST has been run and the concentration at the intake is less than 5 ppb; or
 - o For the irrigation of other greenhouse or nursery plants, the concentration is confirmed less than 1 ppb; or

o 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.

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.**

Vascular Aquatic Plants Controlled By SonarOne:¹

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*)

¹ Species denoted by a dagger (†) are 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 By SonarOne:

Submersed Plants:

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

Emerald 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 (*Phalaris arundinaceae*)
southern watergrass (*Hydrochloa carolinensis*)
torpedograss (*Panicum repens*)

Vascular Aquatic Plants Not Controlled By SonarOne:

Emerald 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:

maiden cane (*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.

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 cannot exceed 150 ppb per annual growth cycle.

A. 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, apply SonarOne 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, choose an application rate lower in the rate range.** 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 cannot 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.

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, use the lower rates (16 - 75 ppb) within the rate range. **In controlling Eurasian watermilfoil and curlyleaf pondweed and where greater plant selectivity is desired, choose an application rate lower in the rate range.** 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.

B. 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, apply SonarOne at application rates from 45 - 150 ppb. Split or multiple applications may be made; however, the sum of all applications cannot 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 cannot 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:

$$\text{Pounds of SonarOne required per treated acre} = \text{Average water depth of treatment site} \times \text{Desired ppb concentration of active ingredient equivalents} \times 0.054$$

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:

$$5 \times 25 \times 0.054 = 6.75 \text{ pounds per treated surface acre.}$$

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 if allowed by state and local authorities, by burning. If burned, stay out of smoke. If outer packaging is contaminated and cannot be reused, dispose of it in the manner required for its liner.

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.



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

Sonar® Genesis

Aquatic Herbicide

SPECIMEN



FOR MANAGEMENT OF FRESHWATER AQUATIC VEGETATION
IN PONDS, LAKES, RESERVOIRS, POTABLE WATER SOURCES,
DRAINAGE CANALS AND IRRIGATION CANALS.

For use in New York State, comply with Section 24 (C) Special Local
Need labeling for Sonar Genesis, SLN NY 120006

Active Ingredient

Fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]

-4(1H)-pyridinone 6.3%

Other Ingredients 93.7%

TOTAL 100.0%

Contains 0.5 pounds active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN DANGER/PELIGRO

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.)

Refer to inside of label booklet for additional precautionary statements
and directions for use including storage and disposal.

Notice: Read the entire label before using. Use only according to label
directions. Before buying or using this product, read *Warranty Disclaimer* and
Misuse statements inside label booklet. If terms are unacceptable, return at
once unopened.

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

EPA Reg. No. 67690-14
FPL20170208

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Keep Out of Reach of Children DANGER/PELIGRO

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid
contact with skin. Do not get in eyes or on clothing. Wear protective eyewear
(goggles, face shield, or safety glasses). Wear long-sleeved shirt and long
pants, socks, shoes, and chemical resistant (nitrile or butyl; ≥ 14 mils) gloves.
Wash thoroughly with soap and water after handling and before eating,
drinking, chewing gum, using tobacco or using the toilet. Remove and wash
contaminated clothing before reuse.

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 in eyes	<ul style="list-style-type: none">• 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 swallowed	<ul style="list-style-type: none">• 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 on skin or clothing	<ul style="list-style-type: none">• 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.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the
use of gastric lavage.

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.

Environmental Hazards

Do not apply to water except as specified on the label. Do not apply directly
to tidal saltwater sites. Do not contaminate water by disposal of equipment
washwaters. 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.

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.

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.

Ensure spray drift to nontarget susceptible species does not occur.

DO NOT apply this product in any manner not specifically described in this
label.

Observe all cautions and limitations on this label and on the labels of
products used in combination with this product. It is the pesticide user's
responsibility to ensure that all products in the listed mixtures are registered
for the intended use. Users must follow the most restrictive directions for use
and precautionary statements of each product in the tank mixture. **DO NOT**
use this product other than in accordance with the instructions set forth on
this label. Keep containers closed to avoid spills and contamination.

IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call INFOTRAC at
1-800-535-5053.

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC: 1-800-535-5053

Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and
transfer liquid and solid diking material to separate containers for
disposal.
- Remove contaminated clothing, and wash affected skin areas with soap
and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Product Information

This product is a selective systemic aquatic herbicide for management of
freshwater aquatic vegetation in ponds, lakes, reservoirs, drainage canals
and irrigation canals, including dry or de-watered areas of these sites. It
is absorbed from water by plant shoots and from hydrosol by the roots of
aquatic vascular plants. For in-water treatments, it is important to maintain
the specified concentration of this product in contact with the target plants for
a minimum of 45 days. 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 appear in seven to ten days and appear as white (chlorotic) or
pink growing points in many susceptible plant species. Under optimum
conditions, a minimum of 30 to 90 days may be required before the desired
level of aquatic plant management is achieved. Plant species susceptibility
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.

This product is not corrosive to application equipment.

This label provides recommendations on the use of a laboratory analysis
for the active ingredient. SePRO Corporation recommends the use of
high-performance liquid chromatography (HPLC) for the determination of
fluridone concentrations in water. It is recommended to contact SePRO

Corporation for the incorporation of this test, known as a FasTEST, in a treatment program. FasTEST is referenced in this label as the preferred method for the rapid determination of the active ingredient in water. Other proven chemical analyses for the active ingredient may also be used.

Application rates and calculations for this product are provided to achieve a desired concentration of fluridone in parts per billion (ppb). **The maximum application rate or sum of all application rates is 90 ppb in ponds and 150 ppb in lakes, reservoirs and static canals per annual growth cycle.** For purposes of this product's 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. This maximum concentration is the amount of product calculated as the target application rate, NOT determined by testing the concentration of fluridone in the treated water.

Use Restrictions

- **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 or local public agencies.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **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:
 - o A FasTEST has been run and the concentration in water at the intake is less than 1 ppb; or
 - o 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:
 - o For the irrigation of woody ornamental plants, a FasTEST has been run and the concentration at the intake is less than 5 ppb; or
 - o For the irrigation of other greenhouse or nursery plants, the concentration is confirmed less than 1 ppb; or
 - o 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 Applications With Sonar Genesis (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 mile (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 treated water.

- **Potable Water Intakes:** 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 mile (1,320 feet) of any functioning potable water intake. At application rates of 4 to 20 ppb, this product may be applied where functioning potable water intakes are present. **NOTE: Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes.**

Use Precautions

- **Irrigation:** Irrigation from area treated with this product may result in injury to the irrigated vegetation. Follow these precautions and inform those who irrigate from areas treated with this product of the irrigation time frames or FasTEST requirements presented in the table below. Follow the following time frames and assay 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	Assay required
Canals	7	14	Assay required
Lakes and Reservoirs††	7	14	Assay required
Dry or De-watered Canals†††	0	0	†††

† For purposes of this 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. When applying this product to exposed sediments of aquatic sites such as lakes and reservoirs, follow these time frames prior to using water for irrigation once sites are reflooded.

††† When this product is applied to exposed sediments of dry or de-watered irrigation canals, treatments must be made at least 2 weeks prior to when the canals are to be refilled, and allow canals to refill for a minimum of 24 hours before using water for irrigation.

Where the use of Sonar Genesis treated water is desired for irrigating crops prior to the time frames established above, the use of FasTEST analysis is recommended to measure the concentration of fluridone in the treated water. Where a FasTEST has determined that the fluridone concentrations are less than 10 parts per billion, there are no irrigation precautions for irrigating established tree crops, plants, 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 measured fluridone 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 in the previous year without direct consultation with a SePRO Aquatic Specialist. It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation of these sites.**

Plant Control Information

This product's selectivity is dependent upon dosage, time of year, stage of growth, method of application and water movement. The following categories, controlled and partially 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 to determine a plant's susceptibility to the planned treatment.

Vascular Aquatic Plants Controlled by Sonar® Genesis:

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., including *M. spicatum* x *sibiricum* hybrids)

Emerged Plants:

spatterdock (*Nuphar luteum*)
water-lily (*Nymphaea* spp.)
watershield (*Brasenia schreberi*)

Floating Plants:

common duckweed (*Lemna minor*)
Salvinia (*Salvinia* spp.)

Vascular Aquatic Plants Partially Controlled by Sonar® Genesis:

Submersed Plants:

Illinois pondweed (*Potamogeton illinoensis*)
limnophila (*Limnophila sessiliflora*)
tapegrass, American eelgrass (*Vallisneria americana*)

Emerald Plants:

alligatorweed (*Alternanthera philoxeroides*)
American lotus (*Nelumbo lutea*)
cattail (*Typha* spp.)
creeping waterprimrose (*Ludwigia peploides*)
parrotfeather (*Myriophyllum aquaticum*)
smartweed (*Polygonum* spp.)
spikerush (*Eleocharis* spp.)
waterpurslane (*Ludwigia palustris*)

Floating Plants:

common watermeal (*Wolffia columbiana*)[†]

Shoreline Grasses:

barnyardgrass (*Echinochloa crusgalli*)
giant cutgrass (*Zizaniopsis miliacea*)
reed canarygrass (*Phalaris arundinacea*)
southern watergrass (*Hydrochloa carolinensis*)
torpedograss (*Panicum repens*)

[†] Consult with a SePRO Aquatic Specialist about techniques to enhance efficacy of watermeal, including incorporation of Galleon S.C. Aquatic Herbicide into a treatment program, in difficult to control sites.

Mixing and Application Directions

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to this product. 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.

This product may be applied or metered directly into the treated area or diluted with water prior to application. Add the specified amount of this product to water in the spray tank during the filling operation. Surface and subsurface application of the spray can be made with conventional spray equipment. This product can also be applied near the surface of the hydrosol using weighted trailing hoses. A minimum spray volume of 5 to 100 gallons per acre may be used. This product may also be directly metered into the pumping system where it is diluted with water.

Tank Mix Directions

This product may be tank mixed with other aquatic herbicides and algicides to enhance efficacy and plant selectivity provided that this label does not prohibit such mixing. When tank mixing, read and follow the labeled precautionary statements, directions for use, weeds controlled, and other restrictions for each tank mix product. **It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.** No labeled rate or dose should be exceeded. To ensure compatibility, a jar test is recommended before field application of any tank mix combination. It is recommended to consult with SePRO Corporation for latest tank mix recommendations.

NOTE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be at the exclusive risk of the user, applicator and/or application adviser, to the extent allowed by applicable law.

Application Rate Calculation

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

$$\text{Gallons of product required per treated surface acre} = \frac{\text{surfaces acres} \times \text{average water depth of treatment site (feet)} \times \text{desired ppb concentration of active ingredient}}{0.0054}$$

For example, the amount per acre of product required to provide a concentration of 30 ppb of active ingredient in a 1 acre pond with an average depth of 5 feet is calculated as follows:

$$1 \text{ acre} \times 5 \text{ feet} \times 30 \text{ ppb} \times 0.0054 = 0.81 \text{ gallons per treated surface acre}$$

or

$$0.81 \text{ gallons} \times 4 \text{ quarts/gallon} = 3.2 \text{ quarts per treated surface acres}$$

or

$$0.81 \text{ gallons} \times 128 \text{ ounces/gallon} = 104 \text{ ounces per treated surface acre}$$

Application to Ponds

This product may be applied to the entire surface area of a pond. For single applications, rates may be selected to provide 30 to 90 ppb to the treated water. 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 are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation* section of this label. Split or multiple applications may be used to control more difficult target plants and/or where dilution of treated water is anticipated; however, the sum of all applications must not exceed a total of 90 ppb per annual growth cycle.

Average Water Depth of Treatment Site (feet)	Gallons of Product per Treated Surface Acre [†]	
	30 ppb	90 ppb
1	0.16	0.48
2	0.32	0.97
3	0.48	1.45
4	0.64	1.94
5	0.81	2.43
6	0.97	2.91
7	1.13	3.40
8	1.29	3.88
9	1.45	4.37
10	1.62	4.86

[†]To calculate the number of quarts of product required, use the calculation as follows:

$$\text{gallons per surface acre} \times 4 \text{ quarts/gallon} = \text{quarts per surface acre}$$

For example: targeting a concentration of 30 ppb in a one acre pond with average depth of 5 feet would require 0.81 gallons or 3.2 quarts.

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, 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.

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, apply this product at an application rate of 10 to 90 ppb. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional rate calculations, refer to the Application Rate Calculation 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, choose an application rate lower in the rate range.** For other plant species, it is recommended to contact a SePRO Aquatic Specialist for 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. Retreatments may be required to control more difficult to control species or in the event of a heavy rainfall event where dilution of the treatment concentration has occurred. In these cases, a second application or more may be required; however, the sum of all applications cannot 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.

SINGLE APPLICATION		
Average Water Depth of Treatment Site (feet)	Gallons of Product per Treated Surface Acre to Achieve [†]	
	10 ppb	90 ppb
1	0.05	0.48
2	0.10	0.97
3	0.16	1.45
4	0.21	1.94
5	0.27	2.43
6	0.32	2.91
7	0.37	3.40
8	0.43	3.88
9	0.48	4.37
10	0.54	4.86

[†]To calculate the number of quarts product required, use the calculation as follows:

gallons per surface acre x 4 quarts/gallon = quarts per surface acre

For example: targeting a dose of 10 ppb in a 20 acre lake with average depth of 5 feet would require 0.27 gallons per surface acre or 1.0 quarts.

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, through the use of a water analysis, e.g. FasTEST, add additional product to maintain this lower dose for the sufficient time to ensure efficacy and enhance selectivity. Water may be treated at an initial application concentration of 4 to 50 ppb. Additional split applications should be conducted to maintain a sufficient concentration for a minimum of 45 days or longer. **In controlling Eurasian watermilfoil and curlyleaf pondweed and where greater plant selectivity is desired, choose an application rate lower in the rate range.** For other plant species, it is recommended to contact a SePRO Aquatic Specialist for assistance in selecting the appropriate concentrations and timing of application to meet specific plant management goals. When utilizing split or multiple applications of this product, the utilization of FasTEST is strongly recommended to determine the actual concentration in the water over time. For split or multiple applications, the sum of all applications must not exceed 150 ppb per annual growth cycle.

NOTE: In treating lakes or reservoirs that contain functioning potable water intakes and the application requires treating within ¼ mile of a potable water intake, no single application can exceed 20 ppb. Additionally, the sum of all applications cannot exceed 150 ppb per annual growth cycle.

Partial Lake or Reservoir Treatments

Where dilution 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's concentration in the treatment area. Use a rate at the higher end of the rate range where greater dilution with untreated water is anticipated.

Treatment Areas Greater Than ¼ Mile from a Functioning Potable Water Intake

For single applications, apply this product at application rates from 30 to 150 ppb. Split or multiple applications may be made; however, the sum of all applications cannot 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.

Treatment Areas 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 multiple applications 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 cannot exceed 150 ppb per annual growth cycle.

Application to Sediments of Dry or De-Watered Aquatic Sites

For application to sediments of dry or de-watered aquatic sites, including exposed sediments of lakes or reservoirs, irrigation canals, non-irrigation canals and drainage canals, apply a maximum of 4 gallons of product per surface acre per annual growth cycle. Apply product evenly to the sediment surface, with a minimum spray solution of 30 to 100 gallons per surface acre. High levels of organic matter in treated sediments may reduce efficacy. This product may be applied with other aquatic herbicides labeled for this use. It is recommended that a SePRO Aquatic Specialist be consulted for further use

recommendations.

Direct foliar application to floating, topped-out and emerged aquatic vegetation

For application to floating, topped-out and emerged aquatic vegetation in ponds, lakes, reservoirs, drainage canals and irrigation canals, including dry or de-watered areas of these sites, apply a maximum of 4 gallons of product per surface acre per annual growth cycle. Apply product evenly to the treatment area using properly calibrated broadcast equipment in a minimum spray solution of 20 to 100 gallons per surface acre. For treatment of vegetation in or on water, do not exceed a water concentration of 150 ppb. Spot treatments can be made with up to 5% of this product by volume when application rate does not exceed 4 gallons of product per surface acre. It is recommended that a SePRO Aquatic Specialist be consulted for site specific recommendations.

Application to Drainage Canals and Irrigation Canals

Static Canals:

In static drainage and irrigation canals, apply this product at the rate of 30 to 150 ppb. The maximum application rate or sum of all application rates cannot exceed 150 ppb per annual growth cycle.

Moving Water Canals:

In slow moving bodies of water use an application technique that maintains a concentration of 10 to 40 ppb in the target 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 Containing a Functioning Potable Water Intake:

In treating a static or moving water canal which contains a functioning potable water intake, applications 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 are made within ¼ mile of a functioning potable water intake, a FasTEST analysis must be utilized to demonstrate that concentrations do not exceed 150 ppb at the functioning potable water intake.

Application Rate Calculation — Moving Water Drainage and Irrigation Canals:

The amount of product 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 (feet per second) x average canal width (ft.) x average canal depth (ft.) = 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 0.0054 = Gallons of product required per day

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep from freezing. Store in original container only.

Do not store near feed or foodstuffs. In case of leak or spill, use absorbent materials to contain liquids 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 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 (capacity ≤ 5 gallons) 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 this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. 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.

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.



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



Sonar[®] Genesis Aquatic Herbicide

FIFRA 24(c) - SPECIAL LOCAL NEED (SLN) LABEL

SePRO Corporation 11550 North Meridian Street, Suite 600, Carmel, IN 46032 USA

Sonar[®] Genesis Aquatic Herbicide

EPA Reg. No. 67690-54

24(c) Special Local Need Registration (SLN AK-16-0001)

This label for Sonar Genesis Aquatic Herbicide expires and must not be distributed or used in accordance with this SLN registration after 31 December 2021.

FOR DISTRIBUTION AND USE ONLY FOR THE MANAGEMENT OF *Elodea spp.* IN THE STATE OF ALASKA

An herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs -- including flowing water sites, potable water sources, drainage canals, and irrigation canals.

ATTENTION

- 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.
- **This 24(c) supplemental labeling applies only for use in the management of *Elodea spp.* in The State of Alaska.**
- **See product label for Precautionary Statements, Environmental Hazards, First Aid, Storage and Disposal, Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies.**
- This FIFRA Section 24(c) labeling must be in the possession of the user at the time of application.
- All restrictions and precautions on the EPA registered label are to be followed.

DIRECTIONS FOR USE

PRODUCT INFORMATION

Sonar Genesis is a selective systemic aquatic herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs, including flowing water sites, potable water sources, drainage canals and irrigation canals, including dry or de-watered areas of these sites.

Application rates and calculations of Sonar Genesis are provided to achieve a desired concentration of the active ingredient in parts per billion (ppb). **Sonar Genesis applications will seek to maintain active ingredient concentrations above 2 ppb in target management areas for the duration of treatment program selected by managing state agencies. Flow rate in the treatment area and other factors can be considered to maintain effective concentrations. Exact treatment design including target application rates, pulsed treatment approaches and similar adjustments based on latest available technical information on Sonar Genesis use for *Elodea spp.* management may be incorporated if determined to match water use needs of the managed area and are otherwise allowable per this label and the product's container label.**



Sonar[®] Genesis Aquatic Herbicide

FIFRA 24(c) - SPECIAL LOCAL NEED (SLN) LABEL

SePRO Corporation 11550 North Meridian Street, Suite 600, Carmel, IN 46032 USA

Use Restrictions and Precautions

- Follow all container label restrictions and precautions.
- Water Use Restrictions Following Applications With Sonar Genesis when used to flowing water sites for *Elodea spp.* Control in the State of Alaska:

Average Water Concentration	Drinking [†]	Fishing	Swimming	Livestock/Pet Consumption	Irrigation ^{††}
2-15 ppb	0	0	0	0	See irrigation instructions below

[†] Note below, under *Potable Water Intakes*, the information for application of Sonar Genesis within ¼ mile (1,320 feet) of a functioning potable water intake.

^{††} Note below, under *Irrigation*, fluridone concentrations that provide the widest safety margin for irrigating with treated water.

- **Potable Water Intakes:** At target application rates of 2-15 ppb, Sonar Genesis may be applied to flowing water sites where functioning potable water intakes are present. **NOTE: Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes.**
- **Irrigation:** Irrigation from a Sonar Genesis treated area may result in injury to the irrigated vegetation. Inform those who irrigate from areas treated with Sonar Genesis of the following irrigation restrictions and precautions:
 - 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 Sonar Genesis treated water if measured fluridone concentrations are greater than 5 ppb.
 - For other irrigation uses including watering of established turf, established crops and ornamental species: There are no restrictions on irrigation.
 - **It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation with treated waters.**

MIXING AND APPLICATION DIRECTIONS

Sonar Genesis may be applied or metered directly into the treated area or diluted with water prior to application. Sonar Genesis can be applied by drip or metered application below the water surface.



Sonar[®] Genesis Aquatic Herbicide

FIFRA 24(c) - SPECIAL LOCAL NEED (SLN) LABEL

SePRO Corporation 11550 North Meridian Street, Suite 600, Carmel, IN 46032 USA

Application to flowing water sites for *Elodea spp.* control

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

1. Average flow rate (feet per second) \times average canal width (ft.) \times average canal depth (ft.) \times 0.9 = CFS (cubic feet per second).
2. CFS \times 1.98 = acre feet per day (water movement).
3. Acre feet per day \times desired ppb \times 0.0054 = Gallons Sonar Genesis required per day.

While 2 – 15 ppb rates are anticipated for *Elodea spp.* control in flowing sites, alternate rates up to the 150 ppb federal label maximum for non-potable water and 20 ppb for potable water are permissible to meet management objectives. For application rates greater than 20 ppb, follow all additional water use restrictions on container label.

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EPA Registration No. 67690-54
FPL20160324

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.



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.

Individual protection measures

Section 8. Exposure controls/personal protection

- 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 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	-	-	-

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.

Specific target organ toxicity (single exposure)

There is no data available.

Section 11. Toxicological information

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.

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	<i>Daphnia - Daphnia magna</i> <i>Crustaceans - Eucyclops sp.</i> <i>Fish - Cyprinodon variegatus</i> <i>Fish - Pimephales promelas</i> <i>Daphnia - Daphnia magna</i> <i>Fish - Oncorhynchus tshawytscha</i>	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	-	-	-



Section 14. Transport information

Environmental hazards	No.	No.	No.
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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

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





Section 15. Regulatory information

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 : 05/15/2017
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.



SAFETY DATA SHEET



Sonar[®] Genesis Aquatic Herbicide

Section 1. Identification

GHS product identifier : Sonar[®] Genesis
Aquatic Herbicide

Other means of identification : Not available.

EPA Registration No. : 67690-54

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 : ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger



Section 2. Hazards identification

Hazard statements	: H332 - Harmful if inhaled. H318 - Causes serious eye damage. H315 - Causes skin irritation. H335 - May cause respiratory irritation. H401 - Toxic to aquatic life. H412 - Harmful to aquatic life with long lasting effects.
<u>Precautionary statements</u>	
Prevention	: P280 - Wear protective gloves. Wear eye or face protection. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid accidental release to the environment. P261 - Avoid breathing vapor. P264 - Wash hands thoroughly after handling.
Response	: P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
Storage	: P405 - Store locked up.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
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 1	30 - 40	-
Proprietary ingredient 2	40 - 50	-
Proprietary ingredient 3	40 - 50	-
Proprietary ingredient 4	5 - 10	-
Fluridone	6.3	59756-60-4
Proprietary ingredient 5	1 - 10	-
Proprietary ingredient 6	1 - 10	-
Proprietary ingredient 7	0.1 - 1	-
Proprietary ingredient 8	0.1 - 1	-

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

There are no 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 | : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. |
| Inhalation | : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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 | : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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 serious eye damage. |
| Inhalation | : Harmful if inhaled. May cause respiratory irritation. |
| Skin contact | : Causes skin irritation. |
| Ingestion | : No known significant effects or critical hazards. |

Over-exposure signs/symptoms

- | | |
|---------------------|--|
| Eye contact | : Adverse symptoms may include the following:
pain
watering
redness |
| Inhalation | : Adverse symptoms may include the following:
respiratory tract irritation
coughing |
| Skin contact | : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur |

Section 4. First aid measures

Ingestion : Adverse symptoms may include the following:
stomach pains

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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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 : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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".

Section 6. Accidental release measures

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 : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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 get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid accidental release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Store locked up. 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
Proprietary ingredient 1	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m³ 8 hours. None. None. None. None. None.
Proprietary ingredient 2	
Proprietary ingredient 3	
Fluridone	
Proprietary ingredient 5	
Proprietary ingredient 6	

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- 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** : Liquid. [Clear.]
- Color** : Golden yellow.
- Odor** : Sweet, non-pungent. [Slight]
- Odor threshold** : Not available.
- pH** : 4.6 [Conc. (% w/w): 1%]
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Open cup: >93.3°C (>200°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.

Section 9. Physical and chemical properties

Vapor density	: Not available.
Relative density	: 0.97
Solubility	: Not available.
Solubility in water	: Dispersible in water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 0.303 cm ² /s (30.3 cSt)
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
Sonar® Genesis	LC50 Inhalation Dusts and mists	Rat	>2.04 mg/L	4 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sonar® Genesis	Skin - Primary dermal irritation index (PDII)	Rabbit	4.9	-	60 minutes
	Eyes - Cornea opacity	Rabbit	43	-	24 hours

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Sonar® Genesis	skin	Guinea pig	Not sensitizing

Mutagenicity

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

Section 11. Toxicological information

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.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Proprietary ingredient 3 Proprietary ingredient 6	Category 3 Category 3	Not applicable. Not applicable.	Respiratory tract irritation Respiratory tract irritation

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 serious eye damage.
Inhalation : Harmful if inhaled. May cause respiratory irritation.
Skin contact : Causes skin irritation.
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
 watering
 redness
Inhalation : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

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

Section 11. Toxicological information

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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	1100 mg/L

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Proprietary ingredient 1	Acute EC50 >110 ppm Fresh water	<i>Daphnia</i> - <i>Daphnia magna</i>	48 hours
	Acute LC50 1020000 µg/L Fresh water	<i>Crustaceans</i> - <i>Ceriodaphnia dubia</i>	48 hours
Proprietary ingredient 3	Acute LC50 710000 µg/L Fresh water	<i>Fish</i> - <i>Pimephales promelas</i>	96 hours
	Acute EC50 5 ppm Fresh water	<i>Algae</i> - <i>Pseudokirchneriella subcapitata</i>	72 hours
Fluridone	Acute LC50 21 ppm Fresh water	<i>Fish</i> - <i>Oncorhynchus mykiss</i>	96 hours
	EC50 3 mg/L	<i>Daphnia</i> - <i>Daphnia magna</i>	48 hours
	LC50 8 mg/L	<i>Crustaceans</i> - <i>Eucyclops sp.</i>	48 hours
	LC50 >5.2 mg/L	<i>Fish</i> - <i>Cyprinodon variegatus</i>	96 hours
	LC50 >6.5 mg/L	<i>Fish</i> - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 0.84 mg/L	<i>Daphnia</i> - <i>Daphnia magna</i>	21 days
	Chronic NOEC 0.43 mg/L	<i>Fish</i> - <i>Oncorhynchus tshawytscha</i>	75 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Proprietary ingredient 1	-1.07	-	low
Proprietary ingredient 3	3.44	-	low
Fluridone	3.16	-	low
Proprietary ingredient 6	2.9	25.33	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) PAIR:** Proprietary ingredient 8
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Commerce control list precursor: Proprietary ingredient 7

Clean Air Act Section 112 : Not listed
(b) Hazardous Air Pollutants (HAPs)

Clean Air Act Section 602 : Not listed
Class I Substances

Clean Air Act Section 602 : Not listed
Class II Substances



Section 15. Regulatory information

DEA List I Chemicals : Not listed
(Precursor Chemicals)

DEA List II Chemicals : Not listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Proprietary ingredient 2	No.	No.	No.	Yes.	No.
Proprietary ingredient 3	No.	No.	No.	Yes.	No.
Fluridone	No.	No.	No.	Yes.	No.
Proprietary ingredient 4	No.	No.	No.	Yes.	No.
Proprietary ingredient 5	Yes.	No.	No.	Yes.	No.

SARA 313

There is no data available.

State regulations

Massachusetts : The following components are listed: Proprietary ingredient 6

New York : None of the components are listed.

New Jersey : The following components are listed: Proprietary ingredient 1

Pennsylvania : The following components are listed: Proprietary ingredient 1; Proprietary ingredient 6

California Prop. 65

No products were found.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE - Category 1	On basis of test data
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
AQUATIC HAZARD (ACUTE) - Category 2	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

History

Date of issue mm/dd/yyyy : 05/15/2017

Date of previous issue : 04/15/2015

Version : 3

Prepared by : KMK Regulatory Services Inc.





Section 16. Other information

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.



Supporting Document 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 tested 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. Bathing Beauty Pond is a recreational water body used mainly for fishing, boating and swimming, and does not have any commercial agricultural use, so exposure through livestock is unlikely. 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 an 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, amphipods, 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 eradication of elodea, but native submerged aquatic plants will be impacted as well. Madsen et al. (2002) evaluated effects on nontarget plants in three lakes in southern Michigan that were treated with low-dosages of fluridone (Sonar AS) to control Eurasian 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). In Hot Springs Slough, elodea grows both alone in monotypic stands and in mixed assemblages with other native aquatic species as the dominant species. At the low concentrations applied (≤ 150 ppb) fluridone is expected to be only lethal to elodea. The aquatic plant community is expected to shift back to one comprised entirely of native species. There may be a time period when elodea is decaying that light and dissolved oxygen may be temporarily reduced. As the plant continues to decay, water clarity and dissolved oxygen as well as nutrient levels are expected to return to normal water quality levels.

Supporting Document 8: Precautions

All personal and environmental use precautions listed in the MSDS sheets and product labels will be followed strictly. Transportation, storage, and application will all follow manufacturer guidelines. All applications will be done by certified DEC Pesticide Applicators with Category 6 Aquatic Pest control endorsements.

Appropriate signage will be placed in the application areas to inform the public of the potential safety concerns. Manley community members will be kept informed of the application procedure, interaction concerns, and follow-up monitoring results.

Public notification of pesticide applications in public places will be posted at public access points of entry and exit. Signs will stay posted at least 24 hours after the application with contact names, phone numbers, time of application, and any appropriate restrictions.

Application of the pesticides will adhere to custom prescriptions formulated for Hot Springs Slough and followed accordingly. This will minimize any potential for adverse effects on all non-target environmental elements.

Supporting Document 11: Documentation of compliance with APDES permit requirements



THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental
Conservation

DIVISION OF WATER
Wastewater Discharge Authorization Program

555 Cordova Street
Anchorage, Alaska 99501-2617
Main: 907.269.6285
Fax: 907.334.2415
www.dec.alaska.gov/water/wwdp

May 30, 2018

Alaska Dept. of Natural Resources (ADNR)
Attention: Robert Carter
5310 South Bodenbug Spur
Palmer, AK 99645

Re: AKG870009: ADNR, Fairbanks Soil & Water Conservation District (FSWCD)

Dear Mr. Carter:

The Alaska Department of Environmental Conservation (DEC) has completed its review of your AKG870000 Pesticide General Permit (PGP) Notice of Intent (NOI) modification and is reissuing the following authorization number: **AKG870009** with the additional pest management areas 6-8. The wastewater discharge is authorized in accordance with the terms of the general permit and any site specific requirements in this authorization for the following pest management areas identified in the NOI:

Pest Management Area: 1 of 8, Chena Slough

Pesticide Use Patterns:

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

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	Solar Genesis	67690-54
Elodea spp.	Sonar H4C	67690-61

Pest Management Area: 2 of 8, Chena Lake

Pesticide Use Patterns:

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

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	SonarONE	67690-45
Elodea spp.	Solar Genesis	67690-54

Pest Management Area: 3 of 8, Totchaket Slough

Pesticide Use Patterns:

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

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	Littora	67690-53
Elodea spp.	Solar Genesis	67690-54
Elodea spp.	Sonar H4C	67690-61

Pest Management Area: 4 of 8, Linder Lakes Complex**Pesticide Use Patterns:**☐ Mosquito and Other Flying Insect Pest Control☐ Animal Pest Control☒ Weed and Algae Pest Control☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	SonarONE	67690-45
Elodea spp.	Littora	67690-53
Elodea spp.	Solar Genesis	67690-54

Pest Management Area: 5 of 8, Small Arms Complex Pond, Ft. Wainwright**Pesticide Use Patterns:**☐ Mosquito and Other Flying Insect Pest Control☐ Animal Pest Control☒ Weed and Algae Pest Control☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	Littora	67690-53
Elodea spp.	SonarOne	67690-45
Elodea spp.	Sonar Genesis	67690-54

Pest Management Area: 6 of 8, Bathing Beauty Pond**Pesticide Use Patterns:**☐ Mosquito and Other Flying Insect Pest Control☐ Animal Pest Control☒ Weed and Algae Pest Control☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	SonarOne	67690-45
Elodea spp.	Sonar Genesis	67690-54

Pest Management Area: 7 of 8, Manley Hot Springs Slough**Pesticide Use Patterns:**☐ Mosquito and Other Flying Insect Pest Control☐ Animal Pest Control☒ Weed and Algae Pest Control☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	Littora	67690-53
Elodea spp.	SonarOne	67690-45
Elodea spp.	Sonar Genesis	67690-54

Pest Management Area: 8 of 8, Birch Lake**Pesticide Use Patterns:**☐ Mosquito and Other Flying Insect Pest Control☐ Animal Pest Control☒ Weed and Algae Pest Control☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Elodea spp.	Littora	67690-53
Elodea spp.	SonarOne	67690-45
Elodea spp.	Sonar Genesis	67690-54

An electronic copy of the PGP is available at <http://dec.alaska.gov/media/14096/akg870000-2017-pgp.pdf> and a copy of this authorization letter is posted to the DEC water permit search website <http://dec.alaska.gov/Applications/Water/WaterPermitSearch/Search.aspx>.

The authorization effective date is 5/30/2019

The authorization to discharge expires upon submittal of a Notice of Termination, see [Permit Part 1.2.6](#).

The permittee is reminded of the following permit requirements:

- Technology-Based Effluent Limitations, [Part 2.2, Decision-makers' Responsibilities for All Decision-makers](#)
- Technology-Based Effluent Limitations, [Part 2.2, Decision-makers' Responsibilities for Decision-makers Required to Submit NOIs](#)
- Water Quality, [Part 3](#)
- Monitoring, [Part 4](#)
- Pesticide Discharge Management Plan, [Part 5](#)
- Corrective Action, [Part 6](#)
- Recordkeeping, Parts [7.1](#), [7.4](#), and [7.5](#)
- Annual Report, [Part 7.6](#)
- Standard Permit Conditions, [Permit Appendix A](#)

If you are self-applying a pesticide, your requirements also include:

- Technology-Based Effluent Limitations, [Part 2.1 Applicators' Responsibilities](#)

If you are self-applying a pesticide, your requirements also include:

- Technology-Based Effluent Limitations, [Part 2.1 Applicators' Responsibilities](#)

A copy of the [PGP AKG870000](#) and this authorization must be kept at the address provided in the NOI. This authorization does not relieve the permittee from other local, state, or federal government permitting requirements.

If you have any questions regarding the above, please contact me at 907-334-2288 or via email at James.Rypkema@alaska.gov.

Sincerely,

James Rypkema
Program Manager, Storm Water and Wetlands

Enclosure: Pesticide Discharge map

cc: w/enclosure (email)
Joni Scharfenberg, FSWCD
Daniel Coleman, DNR
Aditi Shenoy, DNR

Pest Management Area 7: Manley Hot Springs Slough (~300 acres)

