April 25th, 2016

To whom it may concern,

Please review the following Pesticide-Use Permit Application for the Interior Alaska Elodea Eradication Project. This project proposes to treat Chena Lake, Chena Slough, and Totchaket Slough with the aquatic herbicide fluridone.

The following information includes the Pesticide Use Permit along with twelve attachments as defined by the table of contents.

Please feel free to contact me regarding questions regarding this application. Thank you.

Sincerely,

Heather A.M. Stewart
Natural Resource Specialist III
Alaska Plant Materials Center
5310 S. Bodenburg Spur
Palmer AK 99645
907-745-8721
Heather.stewart@alaska.gov
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Letter</td>
<td>i</td>
</tr>
<tr>
<td>Contents</td>
<td>ii</td>
</tr>
<tr>
<td>DEC Pesticide Use Permit Application</td>
<td>1</td>
</tr>
<tr>
<td>Attachment 1: Justification for Pesticide Application</td>
<td>20</td>
</tr>
<tr>
<td>Attachment 2: Map of Area</td>
<td>21</td>
</tr>
<tr>
<td>Attachment 3: Detailed Map of Application Area</td>
<td>22</td>
</tr>
<tr>
<td>Attachment 4: Water Well Locations</td>
<td>27</td>
</tr>
<tr>
<td>Attachment 5: EPA Labels for Pesticides</td>
<td>31</td>
</tr>
<tr>
<td>Attachment 6: Material Safety Datasheet for Pesticides</td>
<td>51</td>
</tr>
<tr>
<td>Attachment 7: Potential Environmental Impacts</td>
<td>76</td>
</tr>
<tr>
<td>Attachment 8: Precautions</td>
<td>78</td>
</tr>
<tr>
<td>Attachment 11: Alaska Pollution Discharge Elimination System Permit</td>
<td>79</td>
</tr>
<tr>
<td>Attachment 12: Additional Pesticide Applicators</td>
<td>97</td>
</tr>
<tr>
<td>Attachment 13: Detailed Application Prescription</td>
<td>99</td>
</tr>
</tbody>
</table>
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 water body, including creeks, rivers, streams, ponds, wetlands, and swamps, regardless of who owns the surrounding lands.
  - **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](mailto: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.

---

The Alaska Department of Environmental Conservation  
Pesticide Control Program  
1700 E. Bogard Road, Building B Suite 103  
Wasilla, Alaska 99654  
Fax: 1-907-376-2382  
**General Assistance**: 1-907-376-1870  
Toll Free Number: 1-800-478-2577 (in-state)  
[www.dec.state.ak.us/eh/pest/](http://www.dec.state.ak.us/eh/pest/)
### Part One: Contact Information

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

<table>
<thead>
<tr>
<th>Organization/business</th>
<th>Alaska Department of Natural Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person</td>
<td>Heather Stewart</td>
</tr>
<tr>
<td>Mailing address</td>
<td>5310 S. Bodenburg Spur</td>
</tr>
<tr>
<td>City, State, Zip</td>
<td>Palmer, AK 99645</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>907-745-8721</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:Heather.stewart@alaska.gov">Heather.stewart@alaska.gov</a></td>
</tr>
</tbody>
</table>

Is the applicant a government entity?  
☑️ Yes  
☐ No  

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

<table>
<thead>
<tr>
<th>Organization/business</th>
<th>Fairbanks Soil and Water Conservation District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact person</td>
<td>Aditi Shenoy</td>
</tr>
<tr>
<td>Mailing address</td>
<td>590 University Ave., #2</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Fairbanks, AK 99709</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>907-479-1213</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:Aditi.shenoy@gmail.com">Aditi.shenoy@gmail.com</a></td>
</tr>
<tr>
<td>Pesticide Applicator</td>
<td></td>
</tr>
<tr>
<td>Certification Number</td>
<td>9789-1606-6/9</td>
</tr>
</tbody>
</table>
# Part Two: Treatment Location Information

<table>
<thead>
<tr>
<th>#</th>
<th>Treatment site location: 18 AAC 90.515(B)(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Street Address</strong> Waterbodies: Chena Lake, Chena Slough, Totchaket Slough</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|  | **City** 
| OR | For remote areas, fill in an informal location description such as mileposts, landmarks, distance and direction from nearest community, latitude and longitude, UTM coordinates, etc. |
|  | **Chena Lake:** T2S R3E Sec 6 and T1S R3E Sec 31. Approximately 3.5 miles along Laurance Rd north of mile 346.8 on the Richardson Hwy outside of the North Pole city limits. |
|  | **Chena Slough:** T1S R1E Sec 11, 12, 13, 14 and T1S R1E Sec 18, 19, 20, 29, 32, and 33. Approximately 0.4 miles east of the Plack Rd and Badger Rd intersection, downstream to 0.1 miles east of the end of Centaurus just outside of the North Pole city limits. |
|  | **Totchaket Slough:** T2S R8W Sec 5, 8, 17, 20 and 29, and T1S R8W Sec 32. About 12 miles North of Nenana. |
| 2 | Describe treatment site (lake, stream, river, wetland, etc.), including inflow and outflow characteristics, stream flow, etc.: |
|  | **Chena Lake** is located in the city of North Pole, approximately 16 miles east of Fairbanks, Alaska. It is located on the Tanana Lowland, a wide floodplain underlain by thick beds of stratified gravel deposits. Chena Lake is a man-made lake, built in 1979 in response to the 1967 flood. There are no inlets or outlets to Chena Lake. A flood control structure was built to connect the “South Seepage Collector Channel” of the Chena River to the north part of the Chena Lake, but has never been utilized (pers. communication, Army Corps of Engineers). The treatment site is the entire Chena Lake: 234.3 surface acres, averaging 16.0 ft in depth, and totaling 3748.8 acre-ft in volume. |
|  | **Chena Slough** is located in the city of North Pole, approximately 4 miles east of Fairbanks. Prior to 1945, both the Chena River and the Tanana River contributed water to the Chena Slough. All headwaters to the Chena Slough are now blocked by the Moose Creek Dam, and recharge occurs from upwelling groundwater (pers. communication, Army Corps of Engineers). Stream gauge flow in 2015 was recorded in Chena Slough to average ~52.0 cubic ft/sec. The treatment area of the Chena Slough is located at the Plack Road bridge (483175.31E, 7183633.07N) downstream to where the slough meets with the Chena River (476715.43E, 7190908.78N). The treatment site is 118.8 surface acres, averaging 3.0 ft in depth, and totaling 356.0 acre-ft in volume. |
|  | **Totchaket Slough** is located approximately 12 miles north of Nenana. It is recharged by groundwater and surrounding wetland sites, and discharges into the Tanana River. The vegetation surrounding Totchaket Slough ranges from wetland species to woody species (Appendix __). Stream gauge flow in 2015 was recorded in Totchaket Slough to be 8.5 cubic ft/sec. The treatment site is 232.0 surface acres, averaging 3.0 ft in depth, and totaling 696.0 acre-ft in volume. |
3 List each public or private drinking water system within 200 feet of the treatment area.  18 AAC 90.515(8)(D)

There are a total of 5 public or private drinking wells within 200 feet of Chena Lake (Attachment 4). The EPA's Safe Drinking Water Information System (SDWIS) lists these wells as water system number: AK2371891, AK2371906, AK2371883, AK2371875, and AK2371914.

There are no drinking water wells within 200 feet of Totchaket Slough.

There are 152 private drinking water wells and one public drinking well within 200 feet of the Chena Slough (Attachment 4). The public drinking well information was obtained through the State of Alaska Department of Environmental Conservation’s (DEC) Safe Drinking Water Information System (SDWIS), and identified as water system number: AK2314221. The private drinking well data was extracted from parcels classified as improved in the Fairbanks North Star Borough (FNSB) GIS database, and identified by the address ID:

<table>
<thead>
<tr>
<th>Chena Slough Drinking water wells: Address ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>13085 14502 14605 15768 15979 16842 17191</td>
</tr>
<tr>
<td>13087 14514 14606 15769 15980 16843 17198</td>
</tr>
<tr>
<td>13088 14516 14608 15927 16000 16849 17199</td>
</tr>
<tr>
<td>13089 14517 14609 15934 16176 16850 17202</td>
</tr>
<tr>
<td>13137 14518 14615 15936 16177 17034 17204</td>
</tr>
<tr>
<td>13138 14519 14618 15941 16217 17035 17205</td>
</tr>
<tr>
<td>13147 14521 14621 15944 16219 17036 17207</td>
</tr>
<tr>
<td>13148 14522 14623 15945 16220 17038 17210</td>
</tr>
<tr>
<td>13161 14525 14624 15946 16224 17039 34725</td>
</tr>
<tr>
<td>13162 14527 14625 15947 16721 17040 34726</td>
</tr>
<tr>
<td>13163 14528 14626 15948 16722 17041 35253</td>
</tr>
<tr>
<td>13164 14530 14629 15949 16724 17044 35407</td>
</tr>
<tr>
<td>13166 14535 15719 15950 16725 17045 35419</td>
</tr>
<tr>
<td>13172 14536 15721 15962 16787 17046 35420</td>
</tr>
<tr>
<td>13175 14539 15724 15963 16788 17048 35701</td>
</tr>
<tr>
<td>14410 14571 15728 15964 16789 17099 36635</td>
</tr>
<tr>
<td>14413 14572 15729 15972 16790 17103 36806</td>
</tr>
<tr>
<td>14414 14573 15763 15973 16791 17104 37979</td>
</tr>
<tr>
<td>14418 14599 15764 15975 16805 17107 39676</td>
</tr>
<tr>
<td>14495 14600 15765 15976 16809 17150 40175</td>
</tr>
<tr>
<td>14500 14602 15766 15977 16810 17165</td>
</tr>
<tr>
<td>14501 14604 15767 15978 16841 17188</td>
</tr>
</tbody>
</table>

Contact addresses are associated with these ID numbers, and will be used for the notification of application dates.
<table>
<thead>
<tr>
<th>#</th>
<th>Part Two: Treatment Location Information</th>
</tr>
</thead>
</table>
| 4  | **Approximate size of the treatment area. Please specify units (acre feet, flow rate, etc. The units should match units on the pesticide label):**  
    18 AAC 90.515(8)(B)  
    **Chena Lake:** 234.3 surface acres, averaging 16.0 ft in depth, and totaling 3748.8 acre-ft in volume.  
    **Chena Slough:** 118.8 surface acres, averaging 3.0 ft in depth, and totaling 356.0 acre-ft in volume.  
    **Totchaket Slough:** 232.0 surface acres, averaging 3.0 ft in depth, and totaling 696.0 acre-ft in volume. |
| 5  | **If the treatment location has been identified as habitat for an endangered or threatened species, list each species and category (threatened, endangered).**  
    50 CFR 17.11-12  
    **None** |
Part Three: Treatment Information

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>List the dates &amp; times (or range of dates and times) that pesticide is proposed to be applied: 18 AAC 90.515(9)</td>
</tr>
<tr>
<td></td>
<td>As the goal is eradication, several treatments over the course of 4 years are planned for all three waterbodies. However, not all treatments may be needed pending a post-treatment assessment of herbicide efficacy after the second year of treatments.</td>
</tr>
<tr>
<td></td>
<td>Chena Lake: whole-lake treatment:</td>
</tr>
<tr>
<td></td>
<td>• Treatment 1: Sonar Genesis and SonarONE - May-July 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 2: SonarONE – August-October 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 3: SonarONE – May-June 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 4: SonarONE – May-June 2018</td>
</tr>
<tr>
<td></td>
<td>Chena Slough: partial slough treatment:</td>
</tr>
<tr>
<td></td>
<td>• Treatment 1: Sonar Genesis and H4C - May-August 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 2: H4C – August-October 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 3: Sonar Genesis and H4C – April-August 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 4: H4C – August-October 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 5: Sonar Genesis and H4C – April-August 2018</td>
</tr>
<tr>
<td></td>
<td>• Treatment 6: H4C – August-October 2018</td>
</tr>
<tr>
<td></td>
<td>• Treatment 7: Sonar Genesis and H4C – April-August 2019</td>
</tr>
<tr>
<td></td>
<td>• Treatment 8: H4C – August-October 2019</td>
</tr>
<tr>
<td></td>
<td>Totchaket Slough: whole-slough treatment starting at 483175.31E, 7183633.07N:</td>
</tr>
<tr>
<td></td>
<td>• Treatment 1: Sonar Genesis and SonarONE - May-June 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 2: SonarONE - June-July 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 3: SonarONE – August-October 2016</td>
</tr>
<tr>
<td></td>
<td>• Treatment 4: Sonar Genesis and SonarONE – April-June 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 5: SonarONE - June-July 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 6: SonarONE – August-October 2017</td>
</tr>
<tr>
<td></td>
<td>• Treatment 7: Sonar Genesis and SonarONE - April-June 2018</td>
</tr>
<tr>
<td></td>
<td>• Treatment 8: SonarONE - June-July 2018</td>
</tr>
<tr>
<td></td>
<td>• Treatment 9: SonarONE – August-October 2018</td>
</tr>
</tbody>
</table>

The goal is to maintain a lethal dose in the treatment, or eradication zone for 45-90 days. To ensure that concentrations are maintained, water samples will be collected from test sites, distributed spatially to cover the full acreage and range of depths. Samples will be taken at approximately 2, 4, 8, 12, and 16 week intervals, and during winter months at locations based on waterbody morphology in the waterbodies themselves, and in drinking water wells, pending landowner/water rights approval. All water samples will be collected using protocols established by, and sent by overnight delivery to SePRO Corporation’s analytical laboratory, and a third party for immunoassay following the techniques described by Netherland et al. (2002). If mean fluridone concentrations fall below 75% of the target amount for two consecutive samples, then supplemental fluridone will be added (but not to exceed 150 ppb in one year). Additionally the prescription calls for a fall treatment, which requires monitoring fluridone concentrations in winter months. The timing for winter sampling events will be based on weather conditions, ice thickness, and ease of access.
## Part Three: Treatment Information

<table>
<thead>
<tr>
<th>Target pest of pesticide project:</th>
<th>18 AAC 90.515(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>List specific targets</td>
</tr>
<tr>
<td>Fungus</td>
<td></td>
</tr>
<tr>
<td>✓ Vegetation</td>
<td><em>Elodea spp.</em></td>
</tr>
<tr>
<td>Insects</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td>Rodents</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
## Part Three: Treatment Information

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Provide a description of the method of pesticide application, including details about any equipment that will be used. 18 AAC 90.515(10)</td>
</tr>
</tbody>
</table>

### Materials and pesticide application equipment will be transported to the site by truck or boat. Pesticide dispersal will be made directly into the lake or slough by DEC-certified applicators from outboard motorboats or by shorelines or direct injection systems. Boats will be equipped with delivery systems for liquid (Sonar Genesis) or pellet (SonarONE and H4C) herbicide to the water. Shoreline applications of pellet herbicide will be made by hand in areas where boats cannot access.  

**Liquid Application:** Liquid herbicide in Totchaket Slough and Chena Lake will be applied using a pump connected to weighted hoses mounted to a motorboat. A forked intake line will draw lake water and herbicide separately to be mixed and applied to the lake. The intake line that will draw from the herbicide concentration is metered. The intake rations will be calibrated by running both intakes with untreated water to determine the mix ratio (gallons of water: gallons of herbicide). That ratio is combined with the pump discharge rate to determine the volume of herbicide being discharged per minute (e.g. a 1:10 ratio of herbicide to water being discharged at 50 gallons/minute will deliver 4.5 gallons/minute of herbicide). Application routes will be determined based on swath width (width of application dispersal) and then programmed into onboard GPS equipment to be followed by the operator of the application vessel. The speed of the boat will be set to cover the given route in the amount of time calculated to deliver the prescribed volume of herbicide.  

Liquid herbicide in Chena Slough will be applied using a continuous drip system placed at a metered pump station up stream of the infestation on private property. The drip system will be continuous through a 12 week program by a metered pump operated by a DEC certified applicator via phone based on current discharge readings, and be locked to prevent un-allowed access or herbicide tampering. Drip lines will be placed at the bottom of the slough to ensure the least amount of hindrance to recreation.  

**Pellet Application:** Pellets will be applied using a forced air blower system mounted to a motorboat. 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 the 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 swath width of the blower and programmed into onboard GPS equipment to be followed by the operator of the application vessel. The speed will be determined by the amount of time required to deliver the prescribed weight of pellets to the treatment area. Shoreline applications will be made by hand in areas where boats cannot access treatment areas. Calibrated hand spreaders will be used by applicators to distribute pelleted herbicides in areas with low water levels, or areas with thick emergent vegetation normally considered unnavigable by boat.
### Part Four: Pesticide List

<table>
<thead>
<tr>
<th>#</th>
<th>Pesticide/Adjuvant List</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Fluridone:</strong> Branded as <strong>Sonar Genesis (USEPA 67690-54)</strong>, <strong>SonarONE (USEPA 67690-45)</strong>, and <strong>H4C (USEPA 67690-61)</strong>.</td>
</tr>
</tbody>
</table>

**18 AAC 90.515(1)**: Pesticides MUST be registered in the State of Alaska. Adjuvants MUST be registered in the State of Washington to be considered for use in Alaska.

**2** Total number of pesticides and adjuvants listed: **3**

---

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

To find adjuvants registered in Washington, search [here](http://cru66.cahe.wsu.edu/labels/Labels.php). For “Item to search on”, select “Crop”. For “Common name”, select “adjuvant”.

---

8
### 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)

<table>
<thead>
<tr>
<th>#</th>
<th>Common or brand name of proposed pesticide or adjuvant detailed on this sheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sonar Genesis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>EPA Registration Number (not applicable for adjuvants):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>67690-54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Liquid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>Name of the seller or distributor from whom the pesticide will be obtained:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SePRO Corporation</td>
</tr>
</tbody>
</table>

OR

Check here if pesticide is from a previous surplus  

18 AAC 90.515(1)

<table>
<thead>
<tr>
<th>5</th>
<th>List each active ingredient (or principal functioning agent) in this product AND its percent composition:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient</td>
<td>% composition</td>
</tr>
<tr>
<td>Fluridone</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Name</th>
</tr>
</thead>
</table>
### Part Five: Product Information

For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product.

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>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:</td>
<td>Not applicable – product won’t be diluted</td>
</tr>
<tr>
<td></td>
<td>Amount of product (list units)</td>
<td>0.38 gallons SonarGenesis</td>
</tr>
<tr>
<td></td>
<td>Amount of diluent (list units)</td>
<td>1 gallon water</td>
</tr>
</tbody>
</table>

Example:
- 3 oz product
- 1 gallon water

<table>
<thead>
<tr>
<th>7</th>
<th>Rate of application that will be used for this project:</th>
<th>18 AAC 90.515(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount of product (list units)</td>
<td>8 ppb</td>
</tr>
<tr>
<td></td>
<td>Amount of diluent (list units)</td>
<td>1 gallon per 23 acre-ft</td>
</tr>
</tbody>
</table>

Examples:
- 15 gallons per acre/foot
- 6 lbs per 1000 gallon
**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)

<table>
<thead>
<tr>
<th>#</th>
<th>Total amount of product that will be applied to the treatment site for each application: 18 AAC 90.515(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td><strong>Application Rate</strong> (from Part 5, Question 7)</td>
</tr>
<tr>
<td>Chena Lake</td>
<td>1 gal/23 acre-ft</td>
</tr>
<tr>
<td>Chena Slough</td>
<td>1 gal/23 acre-ft</td>
</tr>
<tr>
<td>Totchaket Slough</td>
<td>1 gal/23 acre-ft</td>
</tr>
</tbody>
</table>

Example:  
15 gallons/acre-foot * 100 acre-feet = 1500 gallons

| 6 lbs/1,000 gallons * 2,000 gallons | = | 12 lbs |

**Part Five: Product Information**

For EACH proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product.

18 AAC 90.515(1-6)

<table>
<thead>
<tr>
<th>#</th>
<th>Common or brand name of proposed pesticide or adjuvant detailed on this sheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SonarONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>EPA Registration Number (not applicable for adjuvants):</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>67690-45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.):</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Pellet</td>
</tr>
</tbody>
</table>
## Part Five: Product Information

For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product.

<table>
<thead>
<tr>
<th>#</th>
<th>Name of the seller or distributor from whom the pesticide will be obtained:</th>
<th>OR</th>
<th>Check here if pesticide is from a previous surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>SePRO Corporation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18 AAC 90.515(1)

<table>
<thead>
<tr>
<th>5</th>
<th>List each active ingredient (or principal functioning agent) in this product AND its percent composition:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Ingredient</td>
<td>% composition</td>
</tr>
<tr>
<td>Fluridone</td>
<td>5%</td>
</tr>
</tbody>
</table>

Product Name

---
### 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)

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>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:</td>
</tr>
</tbody>
</table>

- **Not applicable – product won’t be diluted**

  - Amount of product (list units)
  - Amount of diluent (list units)

  **Example:**
  - 3 oz product
  - 1 gallon water

| 7 | Rate of application that will be used for this project: |

- **Amount of product (list units)**
  - 30 ppb
  - 4.9 lb per 1 surface acre

  **Examples:**
  - 15 gallons per acre/foot
  - 6 lbs per 1000 gallons

| 8 | Total amount of product that will be applied to the treatment site for each application: |

- **Application Rate** (from Part 5, Question 7)
- **Application Area Size** (from Part 2, Question 4) = **Total Volume**

  **Chena Lake**
  - 4.9 lb/surface acre
  - 234.3 surface acres
  - 1148.1 lbs

  **Totchaket Slough**
  - 4.9 lb/surface acre
  - 232.0 surface acres
  - 1136.8 lbs

  **Example:**
  - 15 gallons/acre-foot
  - 100 acre-feet
  - 1500 gallons

  - 6 lbs/1,000 gallons
  - 2,000 gallons
  - 12 lbs
<table>
<thead>
<tr>
<th>#</th>
<th><strong>Part Five: Product Information</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For <strong>EACH</strong> proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product.</td>
</tr>
<tr>
<td>1</td>
<td>Common or brand name of proposed pesticide or adjuvant detailed on this sheet: Sonar H4C</td>
</tr>
<tr>
<td>2</td>
<td>EPA Registration Number (not applicable for adjuvants): 67690-61</td>
</tr>
<tr>
<td>3</td>
<td>Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): Pellets</td>
</tr>
<tr>
<td>4</td>
<td>Name of the seller or distributor from whom the pesticide will be obtained: SePRO Corporation</td>
</tr>
<tr>
<td></td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>Check here if pesticide is from a previous surplus [ ]</td>
</tr>
<tr>
<td>5</td>
<td>List each active ingredient (or principal functioning agent) in this product AND its percent composition:</td>
</tr>
<tr>
<td></td>
<td><strong>Active Ingredient</strong></td>
</tr>
<tr>
<td></td>
<td>Fluridone</td>
</tr>
</tbody>
</table>
### 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)

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>Not applicable – product won’t be diluted ✓</td>
</tr>
<tr>
<td></td>
<td>Amount of product (list units)</td>
</tr>
<tr>
<td></td>
<td>Amount of diluent (list units)</td>
</tr>
<tr>
<td></td>
<td>Example: 3 oz product 1 gallon water</td>
</tr>
</tbody>
</table>

| 7 | Rate of application that will be used for this project: |
|   | Amount of product (list units) 70 ppb |
|   | Amount per 1 surface acre |
|   | Examples: 15 gallons per acre/foot |
|   | 6 lbs per 1000 gallon |
### 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)

<table>
<thead>
<tr>
<th>#</th>
<th>Total amount of product that will be applied to the treatment site for each application:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>18 AAC 90.515(6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chena Slough</th>
<th>Application Rate (from Part 5, Question 7)</th>
<th>Application Area Size (from Part 2, Question 4)</th>
<th>Total Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21.0 lbs/surface acre</td>
<td>118.8 surface acres</td>
<td>2494.8 lbs</td>
</tr>
</tbody>
</table>

**Example:**

<table>
<thead>
<tr>
<th>Application Rate</th>
<th>Application Area Size</th>
<th>Total Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 gallons/acre-foot</td>
<td>* 100 acre-feet</td>
<td>= 1500 gallons</td>
</tr>
<tr>
<td>6 lbs/1,000 gallons</td>
<td>* 2,000 gallons</td>
<td>= 12 lbs</td>
</tr>
</tbody>
</table>
### Part Six: Storage and Disposal

1. List the location where pesticide will be stored prior to final disposal.
   - **Physical Address**: Fairbanks Fish and Wildlife Field Office, 101 12th Ave
   - **City, State, Zip**: Fairbanks, AK 99701

2. Describe how and where excess mixed pesticides and adjuvants will be disposed:
   - There should be no excess mixed product of fluridone since the product will not be mixed and stored in tanks in advance rather the concentrate will be metered and mixed with lake or slough water during the pumping application process. SonarONE and Sonar H4C are not mixed. There may be excess unmixed product, but not excess mixed product.

3. Describe how and where empty pesticide and adjuvant containers will be disposed:
   - Empty containers will be triple-rinsed, punctured, and crushed on-site or at the Fairbanks Fish and Wildlife field office. These containers will later be offered for recycling at the landfill or disposed of in the landfill.

4. If a excess material or empty containers will be disposed in a landfill, provide the following information:
   - **Facility Name**: Fairbanks Landfill, 455 Sanduri Street
   - **City, State, Zip**: Fairbanks, AK 99701
   - **Date when disposal site was contacted to confirm acceptance of materials**: 10/20/2015
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.

<table>
<thead>
<tr>
<th>#</th>
<th>N/A</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Required</td>
<td>Justification for the pesticide application - why you need to apply a pesticide and the benefits you expect to achieve from the treatment.</td>
</tr>
<tr>
<td>2.</td>
<td>Required</td>
<td>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.</td>
</tr>
<tr>
<td>3.</td>
<td>Required</td>
<td>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.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>5.</td>
<td>Required</td>
<td>EPA approved label for each proposed pesticide and adjuvant to be used.</td>
</tr>
<tr>
<td>6.</td>
<td>Required</td>
<td>Material Safety Data Sheet for each proposed pesticide and adjuvant to be used.</td>
</tr>
<tr>
<td>7.</td>
<td>Required</td>
<td>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.</td>
</tr>
<tr>
<td>8.</td>
<td>Required</td>
<td>Description of precautions planned to protect human health, safety, welfare, animals, and the environment.</td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td>Proof of liability insurance (for non-government applicants)</td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>11.</td>
<td>Required</td>
<td>Documentation of compliance with APDES permit requirements (see instructions on page 1).</td>
</tr>
</tbody>
</table>
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.

![Signature]

Applicant's Signature

4 - 25 - 2016

Month Day Year

**PMC Manager**

Applicant's Title
Attachment 1: Justification

Elodea is a 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 is also insidious, in that only a plant fragment is needed to infest a water body because it reproduces vegetatively. This especially becomes a concern in moving waterbodies such as Chena Slough and Totchaket Slough when fragments can float downstream, potentially becoming established in side-channels and wetland complexes well downstream in the Yukon River Basin.

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. Elodea is difficult and expensive to eradicate, requiring sometimes multiple treatments of herbicide over two or three, possibly four growing seasons so it is important that treatment begins as soon as possible. In the case of moving waterbodies like Chena and Totchaket Slough, fluridone is the safest and most effective herbicide for eradication. Fluridone is also selective in killing elodea at relatively low application rates that have limited impacts on many other aquatic plants, as seen in other elodea eradication projects in Alaska. Also fluridone has low toxicity to fish and other non-target species. We will use an integrated pest management strategy to eradicate Elodea from all three known locations in the interior of Alaska, conduct surveys to determine if Elodea exists in presently unknown waters and will provide information on this and other potential invasive aquatic plants to the public to help prevent further introductions into Alaska’s waters.
Attachment 3: Details of Treatment Areas
This page has intentionally been left blank.
Chena Slough: Application Zones

Legend

- National Hydrology Dataset (USGS)
- Application Zones: Whole Slough Treatment

Elodea Cover (%)

0  50  90
Attachment 4: Treatment Area Wells

The following records were obtained through the State of Alaska Department of Environmental Conservation’s (DEC) Safe Drinking Water Information System (SDWIS) database for all public drinking water well records within the treatment areas. Public drinking well data was extracted from parcels classified as improved from the Fairbanks North Star Borough (FNSB) GIS database. The attached maps include all of the known drinking well records within a 200 foot buffer of the relevant treatment site perimeters.

There are no wells within 200 ft of Totchaket Slough.

There are a total of 5 public or private drinking wells within 200 feet of Chena Lake. The EPA’s Safe Drinking Water Information System (SDWIS) lists these wells as water system number: AK2371891, AK2371906, AK2371883, AK2371875, and AK2371914.

There are 153 drinking water wells within the 200 foot application area of the Chena Slough.

<table>
<thead>
<tr>
<th>Chena Slough Drinking Water Wells: Address ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>13085</td>
</tr>
<tr>
<td>13087</td>
</tr>
<tr>
<td>13088</td>
</tr>
<tr>
<td>13089</td>
</tr>
<tr>
<td>13137</td>
</tr>
<tr>
<td>13138</td>
</tr>
<tr>
<td>13147</td>
</tr>
<tr>
<td>13148</td>
</tr>
<tr>
<td>13161</td>
</tr>
<tr>
<td>13162</td>
</tr>
<tr>
<td>13163</td>
</tr>
<tr>
<td>13164</td>
</tr>
<tr>
<td>13166</td>
</tr>
<tr>
<td>13172</td>
</tr>
<tr>
<td>13175</td>
</tr>
<tr>
<td>14410</td>
</tr>
<tr>
<td>14413</td>
</tr>
<tr>
<td>14414</td>
</tr>
<tr>
<td>14418</td>
</tr>
<tr>
<td>14495</td>
</tr>
<tr>
<td>14500</td>
</tr>
<tr>
<td>14501</td>
</tr>
</tbody>
</table>

Addresses are on record for all the listed public and private drinking water wells, and contact will be made prior to treatments according to permit and statutory stipulations.
Additional FasTESTs will be taken from several drinking water wells, pending landowner and subsurface water rights permissions, and sediment samples to obtain information about fluridone concentrations in drinking water and sediment. Both SePRO Corporation and a third party will be utilized to determine concentrations. Depending on the depth of a well, it is expected that fluridone concentrations in drinking water wells will be negligible due to fluridone’s chemical properties to be transported through soils. The soil organic carbon partitioning coefficient (Koc values) for fluridone range from 70 to 2700 for different types of soils; ~2700 in 60% clay with only 1.8% organic matter, and ~270 in fine sandy loam with 8.5% clay and 1.7% organic matter. The higher the Koc value, the less mobile organic chemicals are, while the lower the Koc value, the more mobile the organic chemicals are. Chena Slough is dominated by fine-grained, organic-rich sediments (Kennedy 2009), which are more likely to reflect higher Koc values for fluridone in the treatment area, reassuring that fluridone will not travel more than a few inches into the soil.

Reference:
## Chena Lake
### Drinking Water Wells

#### Legend
- **National Hydrology Dataset (USGS)**
- **Water Wells within 200 ft of lake**

#### Safe Drinking Water Information System database:

<table>
<thead>
<tr>
<th>Map Well #</th>
<th>Water System No.</th>
<th>Name</th>
<th>Status</th>
<th>Primary Source</th>
<th>Federal Type</th>
<th>Activity Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AK2371891</td>
<td>Chena Lakes/ Well #9</td>
<td>A</td>
<td>GW</td>
<td>NP</td>
<td>1/1/1997</td>
</tr>
<tr>
<td>2</td>
<td>AK2371906</td>
<td>Chena Lakes/ Well #10</td>
<td>I</td>
<td>not specified</td>
<td>NP</td>
<td>8/21/2009</td>
</tr>
<tr>
<td>3</td>
<td>AK2371883</td>
<td>Chena Lakes/ Well #8</td>
<td>A</td>
<td>not specified</td>
<td>NP</td>
<td>6/18/2014</td>
</tr>
<tr>
<td>4</td>
<td>AK2371875</td>
<td>Chena Lakes/ Well #7</td>
<td>I</td>
<td>not specified</td>
<td>NP</td>
<td>9/1/2002</td>
</tr>
<tr>
<td>5</td>
<td>AK2371914</td>
<td>Chena Lakes/ Well #11</td>
<td>I</td>
<td>not specified</td>
<td>NP</td>
<td>1/1/1997</td>
</tr>
</tbody>
</table>

Public Water System information has been provided by the Drinking Water Program of the Alaska Department of Environmental Conservation (DEC). The data is updated on an ongoing basis. Please notify DEC of identified errors.
Attachment 5: EPA Pesticide Labels

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.
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:

<table>
<thead>
<tr>
<th>Average Water Concentration</th>
<th>Drinking†</th>
<th>Fishing</th>
<th>Swimming</th>
<th>Livestock/Pet Consumption</th>
<th>Irrigation††</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-15 ppb</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>See irrigation instructions below</td>
</tr>
</tbody>
</table>

† 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) x average canal width (ft.) x average canal 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 0.0054 = 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.

© Copyright 2016 SePRO Corporation
® Sonar is a registered trademark of SePRO Corporation

EPA Registration No. 67690-54
FPL20160324
SonarOne Aquatic Herbicide

SPECIMEN

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

Active Ingredient:
Butachlor 1,3-dimethyl-1-phenyl-1H-pyridinium chloride (34%)

Other Ingredients:
DIRECTIONS FOR USE

ENVIRONMENTAL HAZARDS
Do not apply to water except as specified on the label. Do not contaminate water outside the intended control area by disposal of equipment wastewater. Do not apply in tidewater/brackish water. Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire control area, for example, shallow shoreline areas. Trees and shrubs growing in water treated with SonarOne herbicide 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 ditches, irrigation canals, and rivers. SonarOne is a pelleted formulation containing 5% fluroxone. SonarOne is absorbed from water by plant shoots and from hydroxyl by the roots of aquatic vascular plants. It is important to maintain SonarOne in contact with the target plants for as long as possible. Rapid water movement or any condition which results in rapid dilution of SonarOne in treated water will reduce its effectiveness. In susceptible plants, SonarOne inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight.

Herbicide 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 with SonarOne. Species susceptibility to SonarOne may vary depending on time of year, stage of growth and water movement. For best results, apply SonarOne 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 aquatic organisms.

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 FastTEST, into your treatment program. Other proven chemical analyses for the active ingredient may also be used. The FastTEST 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 Precautions and 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 Fencing: Do not use SonarOne treated water for hydroponic farming unless a FastTEST has been run and confirmed that concentrations are less than 1 ppb.
- Greenhouse and Nursery Plants: Consult with SePRO Corporation for site-specific recommendations prior to any use of SonarOne treated water for irrigating greenhousc or nursery plants. Without site-specific guidance from SePRO, do not use SonarOne treated water for irrigating greenhouses or nursery plants unless a FastTEST has been run and confirmed that concentrations are less than 1 ppb.

First Aid

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

If in eyes:
- Hold eye open and rinse slowly and gently with water for 15 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:
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

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

Hotline

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency involving health or the environment involving this product, call INFOTRAC at 1-800-535-5503.
### Water Use Restrictions Following Application with SonarOne (Days)

<table>
<thead>
<tr>
<th>Application Rate</th>
<th>Drinking</th>
<th>Fishing</th>
<th>Swimming</th>
<th>Livestock/Pet Consumption</th>
<th>Irrigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Rate (150 ppb) or less</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>See irrigation instructions below</td>
</tr>
</tbody>
</table>

- Note below, under Potable Water Intakes, the information for application of SonarOne within 1/4 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 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 SonarOne 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, SonarOne may be applied within 1/4 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 central water system, are not considered to be functioning potable water intakes.

**Irrigation:** Irrigation with SonarOne 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 water treated with SonarOne. Greater potential for crop injury occurs where SonarOne treated water is applied to crops grown on low organic and sandy soils.

### 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 SonarOne. It is recommended to consult a SePRO Aquatic Specialist prior to application of SonarOne 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:**
- Submersed Plants:
  - bladenwort (Utricularia spp.)
  - common coontail (Ceratophyllum demersum)
  - common Elodea (Elodea canadensis)
  - egeria, Brazilian Elodea (Egeria densa)
  - fenwort, 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 Llandella spp.)
  - mosquito fern (Azolla caroliniana)
- Shoreline Grasses:
  - paragrass (Urochloa mutica)

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)
  - tapegrass, American eelgrass (Vallisneria americana)
  - watermilfoil–variable-leaf (Myriophyllum heterophyllum)
- Emerged Plants:
  - alligatorweed (Alternanthera philoxeroides)
  - American lotus (Nelumbo lutea)
  - cattail (Typha spp.)
  - creeping waterprimrose (Ludwigia peploides)
  - parrotfeather (Myriophyllum aquaticum)
  - smartweed (Polygonum spp.)
  - spatterdock (Nuphar lutea)
  - spikerush (Eleocharis spp.)
  - waterlily (Nymphea spp.)
  - waterprimrose (Ludwigia palustris)
  - watershield (Brassica nublariae)
- Shoreline Grasses:
  - barnyardgrass (Echinochloa crus-galli)
  - giant cutgrass (Zizania miliacea)
  - reed canarygrass (Phalaris arundinacea)
  - southern watergrass (Hydrocotyle carolinensis)
  - torpedograss (Panicum repens)

**Vascular Aquatic Plants Not Controlled By SonarOne:**
- Emerged Plants:
  - American frogbit (Limnium spongia)
  - arrowhead ( Sagittaria spp.)
  - bacopa (Bacopa spp.)
  - big floatingheart, banana lily (Nympoides aquaticus)
  - bulrush (Scirpus spp.)
  - pickerelweed, lanceleaf (Pontederia spp.)
  - rush (Juncus spp.)
  - water pennywort (Hydrocotyle spp.)
Floating Plants:
- floating waterhyacinth (Eichhornia crassipes)
- waterlilies (Pistia stratiotes)

Shoreline Grasses:
- maldenra (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. 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.

<table>
<thead>
<tr>
<th>Average Water Depth of Treatment Site (feet)</th>
<th>Pounds of SonarOne Per Treated Surface Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45 ppb</td>
</tr>
<tr>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>4</td>
<td>10.0</td>
</tr>
<tr>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>6</td>
<td>15.0</td>
</tr>
<tr>
<td>7</td>
<td>17.0</td>
</tr>
<tr>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>10</td>
<td>24.5</td>
</tr>
</tbody>
</table>

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 area 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 (1/4) 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.

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 SonarOne 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 SonarOne 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 ppm. Split or multiple applications may be made; however, the sum of all applications cannot exceed 150 ppm 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 ppm. 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 ppm per annual growth cycle.

Application Rate Calculation — Ponds, Lakes and Reservoirs

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

\[
\text{Pounds of SonarOne required per treated acre} = \frac{\text{Avg. water depth of treatment site \times Desired ppm concentration of active ingredient equivalents \times 0.0054}}{20}
\]

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

\[
5 \times 25 \times 0.0054 = 6.75 \text{ pounds per treated surface acre.}
\]

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 ppm in the applied area for a minimum of 45 days. SonarOne 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 ppm must be made more than ¼ mile from a functioning potable water intake. Applications less than 20 ppm may be applied within ¼ mile from a functioning potable water intake; however, if applications of SonarOne are made within ¼ mile from a functioning water intake, a FastEST must be utilized to demonstrate that concentrations do not exceed 150 ppm 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 ppm concentration of active ingredient in treated water may be calculated as follows:

1. Average flow rate (ft. per second) \times \text{average width (ft.)} \times \text{average depth (ft.)} \times 0.9 = \text{CFS (cubic feet per second)}
2. \text{CFS} \times 1.6 = \text{acre feet per day (water movement)}
3. \text{Acre feet per day} \times \text{desired ppm \times 0.054} = \text{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 food or feedstuffs. 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

Nonrefillable 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 ≤ 50 pounds) 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 rinse 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.

Triple rinse containers too large to shake (capacity >50 pounds) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. 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.

Refillable Container: Refill this container with pesticide only. DO NOT reuse this container for any other purpose. Triple rinse the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. Do not transport if this container is damaged or leaking. If the container is damaged, leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.
TERMS AND CONDITIONS OF USE

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies.

WARRANTY DISCLAIMER

SePRO Corporation warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SEPRO CORPORATION MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tomatoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of SePRO Corporation or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer.

LIMITATION OF REMEDIES

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories) shall be limited to: (1) Refund of purchase price paid by buyer or user for product bought, or (2) Replacement of amount of product used.

To the extent consistent with applicable law, SePRO Corporation shall not be liable for losses or damages resulting from handling or use of this product unless SePRO Corporation is promptly notified of such losses or damages in writing. In no case shall SePRO Corporation be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of SePRO Corporation or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

* Sonar is a registered trademark of SePRO Corporation
* Copyright 2013 SePRO Corporation
Sonar® H4C
Aquatic Herbicide

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

Active Ingredient
  fluridone: 1-methyl-3-phenyl-5-{3-(trifluoromethyl)phenyl}-4(1H) pyridinone ........................................... 2.7%
Other Ingredients ................................................................. 97.3%
TOTAL .................................................................................. 100.0%
Contains 0.027 lb active ingredient per pound.

Keep Out of Reach of Children
CAUTION / PRECAUCIÓN

Refer to inside of label booklet for additional precautionary information and Directions for Use including First Aid and Storage and Disposal.

NOTICE: Read the entire label before using. Use only according to label directions. Before buying or using this product, read Terms and Conditions of Use, Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies inside label booklet.

Sonar is a registered trademark of SePRO Corporation.
SePRO Corporation 11550 North Meridian Street, Suite 600, Carmel, IN 46032, U.S.A.

Net weight 40 pounds (Non-refillable)
PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid breathing dust. Wear long sleeved shirt, long pants, shoes and socks.

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCIÓN

FIRST AID

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

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

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

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

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call INFOTRAC at 1-800-535-5053.

USER SAFETY RECOMMENDATIONS

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

ENVIRONMENTAL HAZARDS

Follow use directions carefully so as to minimize adverse effects on non-target organisms. Trees and shrubs growing in water treated with Sonar H4C may occasionally develop chlorosis. Do not apply in tidewater/brackish water. 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.

DIRECTIONS FOR USE

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

Read all Directions Carefully Before Applying Sonar H4C.

PRODUCT INFORMATION

Sonar H4C herbicide is a selective systemic aquatic herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs (including inlets and tributaries), drainage canals, irrigation canals, and ditches. Sonar H4C is a pelleted formulation containing 2.7% fluridone designed to provide enhanced numbers of pellets (greater coverage) in treated areas versus other Sonar pellet formulations at equivalent herbicide dosing. This higher density of pellets has the potential to improve herbicide contact with target vegetation in higher exchange treatment scenarios such as spot or small-partial application designs. Sonar H4C is absorbed from water by plant shoots and from hydrosoil by the roots of aquatic vascular plants. It is important to maintain Sonar H4C in contact with the target plants for as long as possible. Rapid water movement or any
condition which results in rapid dilution of Sonar H4C in treated water will reduce its effectiveness. In susceptible plants, Sonar H4C inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight.

Herbicidal symptoms of Sonar H4C appear in seven to ten days and appear as white (chlorotic) or pink growing points. Under optimum conditions, 30 to 90 days are required before the desired level of aquatic weed management is achieved with Sonar H4C. Species susceptibility to Sonar H4C may vary depending on time of year, stage of growth and water movement. For best results, apply Sonar H4C 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.

Sonar H4C is not corrosive to application equipment.

The label provides recommendations on the use of a chemical analysis for the active ingredient. SePRO Corporation recommends the use of a 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 FastTEST, into your treatment program. Other proven chemical analyses for the active ingredient may also be used. The FastTEST 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 Sonar H4C to achieve a desired concentration of the active ingredient in parts per billion (ppb). The maximum application rate or sum of all application rates is 90 ppb in ponds (< 10 Acres) 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. Permits may be required by state or local public agencies.
- New York State: Application of Sonar H4C is not permitted in waters less than two (2) feet deep, except as permitted under RIFRA Section 24(c), Special Local Need registration.
- Hydroponic Farming: Do not use Sonar H4C treated water for hydroponic farming unless a FastTEST has been run and confirmed that concentrations are less than 1 ppb.
- Greenhouse and Nursery Plants: Consult with SePRO Corporation for site-specific recommendations prior to any use of Sonar H4C treated water for irrigating greenhouse or nursery plants. Without site-specific guidance from SePRO, do not use Sonar H4C treated water for irrigating greenhouse or nursery plants unless a FastTEST has been run and confirmed that concentrations are less than 1 ppb.
- Water Use Restrictions Following Applications With Sonar H4C (Days)

<table>
<thead>
<tr>
<th>Application Rate</th>
<th>Drinking†</th>
<th>Fishing</th>
<th>Swimming</th>
<th>Livestock/Pet Consumption</th>
<th>Irrigation‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Rate (150 ppb) or less</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>See irrigation instructions below</td>
</tr>
</tbody>
</table>

† Note below, under Potable Water Intakes, the information for application of Sonar H4C within 1/4 miles (1,320 feet) of a functioning potable water intake.
‡ Note below, under Irrigation, specific time frames or fluridine concentrations that provide the widest safety margin for irrigating with fluridine treated water.

- Potable Water Intakes: Concentrations of the active ingredient fluridine up to 150 ppb are allowed in potable water sources; however, in lakes and reservoirs or other sources of potable water, do not apply Sonar H4C 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, Sonar H4C 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 connections to potable water wells or a municipal water system, are not considered to be functioning potable water intakes.

- Irrigation: 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 H4C 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 fluridine concentrations in excess of 5 ppb without consultation with a SePRO Aquatic Specialist. It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation of these sites.

Use Precautions

- Irrigation: Irrigation with Sonar H4C treated water may result in injury to the irrigated vegetation. Follow these precautions and inform those who irrigate from areas treated with Sonar H4C of the irrigation time frames or FastTEST requirements presented in the table below. These time frames and FastTEST recommendations are suggestions which should be followed to reduce the potential for injury to vegetation irrigated with water treated with Sonar H4C. Greater potential for crop injury occurs where Sonar H4C treated water is applied to crops grown on low organic and sandy soils.
<table>
<thead>
<tr>
<th>Application Site</th>
<th>Days After Application</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Established Tree Crops</td>
</tr>
<tr>
<td>Ponds and Static Canals</td>
<td>7</td>
</tr>
<tr>
<td>Canals</td>
<td>7</td>
</tr>
<tr>
<td>Rivers</td>
<td>7</td>
</tr>
<tr>
<td>Lakes and Reservoirs</td>
<td>7</td>
</tr>
</tbody>
</table>

† For purposes of Sonar H4C 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 Sonar H4C treated water is desired for irrigating crops prior to the time frames established above, the use of a FastEST is recommended 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.

**PLANT CONTROL INFORMATION**

Sonar H4C 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 Sonar H4C. It is recommended to consult a SePRO Aquatic Specialist prior to application of Sonar H4C to determine a plant’s susceptibility to Sonar H4C.

**Vascular Aquatic Plants Controlled by Sonar H4C:**

**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:**
- azolla (Azolla spp.)
- duckweed (Lemma, Landoila, and Spirodea spp.)

**Shoreline Grasses:**
- paragras (Urochloa mutica)

† Species denoted by a dagger (†) are native plants that are often tolerant to fluridine at lower use rates. Please consult a SePRO Aquatic Specialist for recommended Sonar H4C use rates (not to exceed maximum labeled rates) when selective control of exotic species is desired.

**Vascular Aquatic Plants Partially Controlled by Sonar H4C:**

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

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

**Floating Plants:**
Salvinia (Salvinia spp.)

**Shoreline Grasses:**
barnyardgrass (Echinochloa crusgalli)
giant cutgrass (Zizania palustris)
reed canarygrass (Phalaris arundinaceae)
southern watergrass (Hydrochloa carolinienss)
torpedograss (Panicum repens)

**Vascular Aquatic Plants Not Controlled by Sonar H4C:**

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

**Floating Plants:**
floating waterhyacinth (Eichhornia crassipes)
water lettuce (Pistia stratiotes)

**Shoreline Grasses:**
maidencane (Panicum hemitomon)

**NOTE:** algae (chara, nitea, and filamentous species) are not controlled by Sonar H4C

**APPLICATION DIRECTIONS**
The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to Sonar H4C. 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**
Sonar H4C may be applied to the entire surface area of a pond. For single applications, rates may be selected to provide 45 to 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 45 to 90 ppb and must not exceed a total of 90 ppb per annual growth cycle.
<table>
<thead>
<tr>
<th>Average Water Depth of Treatment Site (feet)</th>
<th>Pounds of Sonar H4C per Treated Surface Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45 ppb</td>
</tr>
<tr>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>13.5</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>22.5</td>
</tr>
<tr>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>31.5</td>
</tr>
<tr>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>9</td>
<td>40.5</td>
</tr>
<tr>
<td>10</td>
<td>45</td>
</tr>
</tbody>
</table>

**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, Sonar H4C 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.

**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 Sonar H4C at an application rate not to exceed 90 ppb, and in a suggested range of 16 to 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 not to exceed 90 ppb 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)

<table>
<thead>
<tr>
<th>Average Water Depth of Treatment Site (feet)</th>
<th>Pounds of Sonar H4C Per Treated Surface Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16 ppb</td>
</tr>
<tr>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>4</td>
<td>6.4</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>9.6</td>
</tr>
<tr>
<td>7</td>
<td>11.2</td>
</tr>
<tr>
<td>8</td>
<td>12.8</td>
</tr>
<tr>
<td>9</td>
<td>14.4</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>17.6</td>
</tr>
<tr>
<td>12</td>
<td>19.2</td>
</tr>
<tr>
<td>13</td>
<td>20.8</td>
</tr>
<tr>
<td>14</td>
<td>22.4</td>
</tr>
<tr>
<td>15</td>
<td>24</td>
</tr>
<tr>
<td>16</td>
<td>25.6</td>
</tr>
<tr>
<td>17</td>
<td>27.2</td>
</tr>
<tr>
<td>18</td>
<td>28.8</td>
</tr>
<tr>
<td>19</td>
<td>30.4</td>
</tr>
<tr>
<td>20</td>
<td>32</td>
</tr>
</tbody>
</table>

**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 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 to determine 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.

**NOTE:** In treating lakes or reservoirs that contain potable water intakes and when 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.

### B. Partial Lake or Reservoir Treatments

Where dilution of Sonar H4C 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 Sonar H4C 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 Sonar H4C 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 Sonar H4C at application rates not to exceed 150 ppb, and in a suggested range of 45 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.

**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 Sonar H4C 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 Sonar H4C to be applied to provide the desired ppb concentration of active ingredient in treated water may be calculated as follows:

\[
\text{Pounds of Sonar H4C required per treated acre} = \text{Average water depth of treatment site} \times \text{Desired ppb concentration of active ingredient} \times 0.1
\]

For example, the pounds per acre of Sonar H4C required to provide a concentration of 25 ppb of active ingredient in water with an average depth of 5 feet is calculated as follows:

\[
5 \times 25 \times 0.1 = 12.5 \text{ pounds per treated surface acre.}
\]

**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 Sonar H4C at typical use rates of 37 to 74 pounds per surface acre.

**Moving Water Canals and Rivers:**
The performance of Sonar H4C 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 to 40 ppb in the applied area for typically a minimum of 45 days. Sonar H4C 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 Sonar H4C 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 Sonar H4C 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 Sonar H4C 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 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 0.1 = pounds Sonar H4C 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

Nonrefillable 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 ≤ 50 pounds) 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 rinse into application equipment or a mix tank, or store rinseate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 50 pounds) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinseate into application equipment or a mix tank, or store rinseate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down and under application equipment or mix tank, or collect rinseate 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.

Refillable Container. Refill this container with pesticide only. DO NOT reuse this container for any other purpose. Triple rinse the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinseate into application equipment or rinseate collection system. Repeat this rinsing procedure two more times. When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. DO NOT transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse empty container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

TERMS AND CONDITIONS OF USE

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies.

WARRANTY DISCLAIMER

SePRO Corporation warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SEPROM CORPORATION MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of SePRO Corporation or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer.
LIMITATION OF REMEDIES

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories) shall be limited to, at SePRO Corporation's election, one of the following:

(1) Refund of purchase price paid by buyer or user for product bought, or
(2) Replacement of amount of product used.

To the extent consistent with applicable law, SePRO Corporation shall not be liable for losses or damages resulting from handling or use of this product unless SePRO Corporation is promptly notified of such losses or damages in writing. In no case shall SePRO Corporation be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of SePRO Corporation or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

© Copyright 2014 SePRO Corporation
Sonar is a registered trademark of SePRO Corporation
Attachment 6: Material Safety Data Sheets for Pesticides

Material Safety Data Sheet

Sonar Genesis Aquatic Herbicide

1. Product and company identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>Sonar Genesis Aquatic Herbicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA Registration Number</td>
<td>67690-54</td>
</tr>
<tr>
<td>Material uses</td>
<td>Aquatic herbicide.</td>
</tr>
<tr>
<td>Supplier/Manufacturer</td>
<td>SePRO Corporation</td>
</tr>
<tr>
<td></td>
<td>11550 North Meridian Street</td>
</tr>
<tr>
<td></td>
<td>Suite 600</td>
</tr>
<tr>
<td></td>
<td>Carmel, IN 46032 U.S.A.</td>
</tr>
<tr>
<td></td>
<td>Tel: 317-580-8282</td>
</tr>
<tr>
<td></td>
<td>Toll free: 1-800-419-7779</td>
</tr>
<tr>
<td></td>
<td>Fax: 317-429-4577</td>
</tr>
<tr>
<td></td>
<td>Monday - Friday, 8am to 5pm E.S.T.</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.sepro.com">www.sepro.com</a></td>
</tr>
<tr>
<td>Responsible name</td>
<td>KMK Regulatory Services Inc.</td>
</tr>
<tr>
<td>In case of emergency</td>
<td>INFOTRAC - 24-hour service 1-800-535-5053</td>
</tr>
</tbody>
</table>

2. Hazards identification

| Physical state   | Liquid. [Clear.] |
| OSHA/HCS status  | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Emergency overview | WARNING! CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. Severe irritation to eyes. Moderately irritating to the skin. Do not get in eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Wash thoroughly after handling. |
| Routes of entry  | Dermal contact. Eye contact. Inhalation. Ingestion. |
| Potential acute health effects | |
| Inhalation | Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| Ingestion | No known significant effects or critical hazards. |
| Skin | Moderately irritating to the skin. |
| Eyes | Severely irritating to eyes. Risk of serious damage to eyes. |

| Potential chronic health effects | |
| Chronic effects | No known significant effects or critical hazards. |
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Teratogenicity | No known significant effects or critical hazards. |
| Developmental effects | No known significant effects or critical hazards. |
| Fertility effects | No known significant effects or critical hazards. |

| Over-exposure signs/symptoms | |
| Inhalation | No specific data. |
| Ingestion | No specific data. |
| Skin | Adverse symptoms may include the following: irritation, redness |
| Eyes | Adverse symptoms may include the following: pain or irritation, watering, redness |

| Medical conditions aggravated by over-exposure | Irreversible eye damage is possible. |

See toxicological information (Section 11)
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active ingredient: 4(1H)-Pyridinone, 1-methyl-3-phenyl-5-(3-trifluoromethyl)phenyl-</td>
<td>59756-69-4</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Inert ingredient: 1,2-Propanediol</td>
<td>57-55-6</td>
<td>30 - 60</td>
</tr>
</tbody>
</table>

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.

4. First aid measures

- **Eye contact**: Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- **Skin contact**: In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.
- **Inhalation**: Move exposed person to fresh air.
- **Ingestion**: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- **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.
- **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.

5. Fire-fighting measures

- **Flammability of the product**: No specific fire or explosion hazard.
- **Extinguishing media**: Use an extinguishing agent suitable for the surrounding fire.
- **Suitable**: None known.
- **Not suitable**: None known.
- **Hazardous thermal decomposition products**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
  - halogenated compounds
- **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.

6. Accidental release measures

- **Personal precautions**: Provide adequate ventilation. Put on appropriate personal protective equipment (see section 9).
- **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).
- **Spill**: 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.
Sonar Genesis Aquatic Herbicide

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.

Storage: Protect from freezing. 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.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Product name</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Propanediol</td>
<td>AIHA WEEL (United States, 5/2010).</td>
</tr>
<tr>
<td>Exposure limits</td>
<td>TWA: 10 mg/m³ 8 hour(s).</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits. Applicants should refer to the product label for personal protective equipment.

Respiratory: Not required under normal conditions of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure an NIOSH/NIOSH-approved respirator or equivalent is used.

Hands: Use gloves appropriate for work or task being performed. Recommended: Natural rubber (latex).

Eyes: Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.

Skin: 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. Recommended: Lab coat.

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

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid (Clear)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Golden yellow</td>
</tr>
<tr>
<td>Flash point</td>
<td>Open cup: &gt;93.333°C (&gt;200°F)</td>
</tr>
<tr>
<td>pH</td>
<td>5 to 7 [Conc. (% w/w): 1%]</td>
</tr>
<tr>
<td>Boiling/condensation point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>8.1 lbs/gal.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Dispersible in water.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Chemical stability: The product is stable.

Conditions to avoid: No specific data.

Materials to avoid: Reactive or incompatible with the following materials: oxidizing materials and acids.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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

Hazardous polymerization: Under normal conditions of storage and use, hazardous polymerization will not occur.
11. Toxicological information

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Propanediol</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>20,800 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>20.8 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>&gt;21.36 g/m³</td>
<td>1 hours</td>
</tr>
<tr>
<td>4(1H)-Pyridazine, 1-methyl-4-phenyl-5-[3-(trifluoromethyl)phényl]-</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;590 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;10 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Chronic toxicity**: No known significant effects or critical hazards.

12. Ecological information

**Environmental effects**: Not established

**Aquatic ecotoxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Propanediol</td>
<td>Acute LC50 &gt; 1000 mg/L Marine water</td>
<td>C. haemastoma - Chaetogammarus marinus</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1020 mg/L Fresh water</td>
<td>- Young - 35 mm</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 710 mg/L Fresh water</td>
<td>Daphnia - Ceriodaphnia daphnoides</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 660 mg/L Fresh water</td>
<td>Fish - Pimephales promelas - -&gt;2 days</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 550 mg/L Fresh water</td>
<td>Daphnia - Ceriodaphnia daphnoides</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute ECD5 3.6 mg/L Fresh water</td>
<td>Fish - Pimephales promelas - -&gt;2 days</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 8 mg/L Fresh water</td>
<td>Algeae - Anabaena cylindrica</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.8 mg/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 780 mg/L Fresh water</td>
<td>Culicicapsae - Eucyclops sp.</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute ECD5 3.6 mg/L Fresh water</td>
<td>Fish - Stizostedion vitreum - 8 to 12 days</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 8 mg/L Fresh water</td>
<td>Fish - Stizostedion vitreum - 8 to 12 days</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

13. Disposal considerations

**Waste disposal**: The generation of waste should be avoided or minimized wherever possible. This material and its containers must be disposed of in a safe way. Avoid disposal of spilled material and runoff in soil, waterways, and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

**DOT/IMDG/IATA**: Not regulated.

15. Regulatory information

**HCS Classification**: Irritating material

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

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals 1,2-Propanediol

SARA 311/312 MSDS distribution - chemical inventory - hazard identification 1,2-Propanediol: Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act (CAA) 112 accidental release prevention: No products were found.

**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

Date of Issue: 08/15/2011
Sonar Genesis Aquatic Herbicide

DEA List I Chemicals
(Preursor Chemicals)
: Not listed

DEA List II Chemicals
(Essential Chemicals)
: Not listed

State regulations
: Connecticut Carcinogen Reporting: None of the components are listed.
    Connecticut Hazardous Material Survey: None of the components are listed.
    Florida Substances: None of the components are listed.
    Illinois Chemical Safety Act: None of the components are listed.
    Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
    Louisiana Reporting: None of the components are listed.
    Louisiana Spill: None of the components are listed.
    Massachusetts Spill: None of the components are listed.
    Michigan Critical Material: None of the components are listed.
    Minnesota Hazardous Substances: None of the components are listed.
    New Jersey Hazardous Substances: The following components are listed: 1,2-Propanediol
    New Jersey Spill: None of the components are listed.
    New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
    New York Acuteily Hazardous Substances: None of the components are listed.
    New York Toxic Chemical Release Reporting: None of the components are listed.
    Pennsylvania RTK Hazardous Substances: The following components are listed: 1,2-Propanediol
    Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65
No products were found.

International regulations
Chemical Weapons
Convention List Schedule I
Chemicals
: Not listed

Chemical Weapons
Convention List Schedule II
Chemicals
: Not listed

Chemical Weapons
Convention List Schedule III
Chemicals
: Not listed

16. Other information

Label requirements
: CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.

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

Health

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

National Fire Protection
Association (U.S.A.)
Sonar Genesis Aquatic Herbicide

Date of issue : 08/15/2011
Date of previous issue : 07/01/2011
Version : 1.1

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.
This page has been intentionally left blank
Material Safety Data Sheet

SonarOne Aquatic Herbicide

1. Product and company identification

Product name: SonarOne Aquatic Herbicide
EPA Registration Number: 67690-45
Material uses: Aquatic herbicide.
Supplier/Manufacturer: 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: 317-428-4577
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

Responsible name: Atrion Regulatory Services, Inc.
In case of emergency: INFOTRAC - 24-hour service 1-800-535-5053

2. Hazards identification

Physical state: Solid [Pallets]
Odor: Faint earthy/musty.
OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview: WARNING!
HARMFUL IF ABSORBED THROUGH SKIN. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
Harmful if absorbed through the skin. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. Wash thoroughly after handling.

Routes of entry: Dermal contact, Eye contact, Inhalation, Ingestion.

Potential acute health effects

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion: No known significant effects or critical hazards.
Skin: Toxic in contact with skin.
Eyes: No known significant effects or critical hazards.

Potential chronic health effects

Chronic effects: No known significant effects or critical hazards.
Carcinogenicity: Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation: No specific data.
Ingestion: No specific data.
Skin: No specific data.
Eyes: No specific data.

Medical conditions aggravated by over-exposure: None known.

See toxicological information (section 11)
SonarOne Aquatic Herbicide

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>United States</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4(1H)-pyridinone, 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-</td>
<td>59756-60-4</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Silica, Crystalline - Quartz</td>
<td>14808-60-7</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

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.

4. First aid measures

Eye contact: Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

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.

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.

5. Fire-fighting measures

Flammability of the product: Non-flammable.

Extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Suitable: None known.

Not suitable: None known.

Special exposure hazards: 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.

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

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.

6. Accidental release measures

Personal precautions: 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 (see section 8).

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up:

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
SonarOne Aquatic Herbicide

Large spill: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see section 6). 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. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Storage: 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>United States</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td></td>
</tr>
<tr>
<td>Silica, Crystalline - Quartz</td>
<td>ACGIH TLV (United States, 1/2007).</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>NIOSH REL (United States, 12/2001).</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.05 mg/m³ 10 hour(s).</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL 23 (United States, 9/2005).</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hour(s). Form: Respirable</td>
</tr>
<tr>
<td></td>
<td>TWA: 0.1 mg/m³ (as quartz) 8 hour(s). Form: Respirable dust</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Applicators should refer to the product label for personal protective clothing and equipment.

Engineering measures: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Personal protection

Eyes: Safety glasses.

Skin: Lab coat.

Respiratory: A respirator is not needed under normal and intended conditions of product use.

Hands: Disposable vinyl gloves.

Personal protective equipment (Pictograms):

* Indicate trademark of SePRO Corporation.
SonarOne Aquatic Herbicide

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid [pellets]</td>
</tr>
<tr>
<td>Color</td>
<td>Brown to gray</td>
</tr>
<tr>
<td>Odor</td>
<td>Faint earthy/musty</td>
</tr>
<tr>
<td>pH</td>
<td>7.8 [Conc. (% w/w); 31%]</td>
</tr>
<tr>
<td>Relative density</td>
<td>64 lbs/cu. ft. (20°C)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble; pellets disintegrates in water.</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Under normal conditions of storage and use, hazardous polymerization will not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Avoid exposure - obtain special instructions before use.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>Reactive or incompatible with the following materials: oxidizing materials.</td>
</tr>
<tr>
<td>Hazardous decomposition</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

11. Toxicological information

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Species</th>
<th>Dose</th>
<th>Result</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4(1H)-pyridione, 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-</td>
<td>Rabbit</td>
<td>&gt;500 mg/kg</td>
<td>LD50 Dermal</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>&gt;10 g/kg</td>
<td>LD50 Oral</td>
<td>-</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>Toxic in contact with skin.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td>No known significant effects or critical hazards.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenicity

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>EPA</th>
<th>NIOSH</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, Crystalline - Quart</td>
<td>A2</td>
<td>2A</td>
<td>-</td>
<td>+</td>
<td></td>
<td>Proven.</td>
</tr>
</tbody>
</table>

12. Ecological information

<table>
<thead>
<tr>
<th>Aquatic ecotoxicity</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product/ingredient name</td>
<td>Test</td>
</tr>
<tr>
<td>4(1H)-pyridione, 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

* Indicate trademark of Sapor Corporation
13. Disposal considerations

Waste disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional/local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

AERG: Not applicable.

Regulatory information

DOT/IMDG/IATA: Not regulated.

15. Regulatory information

United States

HCS Classification: Toxic material
Carcinogen

U.S. Federal regulations:

United States Inventory (TSCA 8b): All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations:

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: Silica, Crystalline - Quartz.
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: Silica, Crystalline - Quartz.
Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65

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

International regulations

California Prop. 65

United States Inventory (TSCA 8b): All components are listed or exempted.
SonarOne Aquatic Herbicide

16. Other information

Label requirements: HARMFUL IF ABSORBED THROUGH SKIN. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

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

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire hazard</th>
<th>Physical Hazard</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>A</td>
</tr>
</tbody>
</table>

HAZARD RATINGS

4- Extreme 3- Serious 2- Moderate 1- Slight 0- Minimal

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

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

Flammability

Health

Instability

Special

References:
- Manufacturer’s Material Safety Data Sheet.
- 49CFR Table List of Hazardous Materials, UN# Proper Shipping Names, PG.

Date of issue: 01/15/2009
Date of previous issue: 12/15/2008
Version: 2

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. The data in this MSDS relates only to the specific material designated herein. Possible adverse effects (see Section 2, 11 and 12) may occur if this material is not handled in the recommended manner.
## SAFETY DATA SHEET

**Sonar® H4C**

### Section 1. Identification

<table>
<thead>
<tr>
<th>GHS product identifier</th>
<th>Sonar® H4C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td>Not available.</td>
</tr>
<tr>
<td>EPA Registration No.</td>
<td>67690-81</td>
</tr>
</tbody>
</table>

**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**

- SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
- AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

- **Signal word**: Warning
- **Hazard statements**: Causes eye irritation. Harmful to aquatic life with long lasting effects.

**Precautionary statements**

- **Prevention**: Avoid accidental release to the environment. Wash hands thoroughly after handling.
- **Response**: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- **Storage**: Not applicable.
- **Disposal**: Dispose of contents and container in accordance with all local, regional, national and international regulations.
- **Hazard not otherwise classified**: None known.

**Date of issue**: 09/15/2015  
**Registered trademark of SePRO Corporation.**
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**CAS number/other identifiers**

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Ingredient 1</td>
<td>70 - 90</td>
<td>-</td>
</tr>
<tr>
<td>Proprietary Ingredient 2</td>
<td>5 - 10</td>
<td>-</td>
</tr>
<tr>
<td>1-Methyl-3-phenyl-5-[(trifluoromethyl)phenyl]-4-pyridone</td>
<td>2.7</td>
<td>59756-60-4</td>
</tr>
<tr>
<td>Proprietary Ingredient 3</td>
<td>1 - 5</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**Over-exposure signs/symptoms**

2/11 Date of issue: 09/15/2015

KMK Regulatory Services
## Section 4. First aid measures

- **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

- **Hazardous thermal decomposition products**: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
  - halogenated compounds
  - metal oxide/oxides

### Special protective actions for fire-fighters

- **No special measures are required.**

### 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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing 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”.

---

3/11  Date of issue : 09/15/2015
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 ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits: None.

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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

Individual protection measures

Date of issue: 09/15/2015

Registered trademark of SePRO Corporation.
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: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance
Physical state: Solid.
Color: Gray.
Odor: Earthy (faint).
Odor threshold: Not available.

pH: 5.41 [Conc. (% w/w): 100%] @ 23°C
Melting point: Not available.
Boiling point: Not available.
Flash point: Not available.

Burning time: Not applicable.
Burning rate: 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: 1.1
Solubility: Easily soluble in the following materials: cold water and hot water.
Section 9. Physical and chemical properties

Solubility in water: Soluble.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
SADT: Not available.
Viscosity: 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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonar H4C</td>
<td>LD50 Dermal LD50 Oral</td>
<td>Rabbit Rat</td>
<td>&gt;2000 mg/kg &gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonar H4C</td>
<td>Skin - Mild Irritant Eyes - Mild Irritant</td>
<td>Rabbit Rabbit</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sonar H4C</td>
<td>skin</td>
<td>Guinea pig</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Date of issue: 09/15/2015
Section 11. Toxicological information

There is no data available.

Specific target organ toxicity (single exposure)
There is no data available.

Specific target organ toxicity (repeated exposure)
There is no data available.

Aspiration hazard
There is no data available.

Information on the likely routes of exposure

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 11. Toxicological information

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methyl-3-phenyl-5-[3- (trifluoromethyl)phenyl]-4-pyridone</td>
<td>Acute EC50 3 mg/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 6 mg/L Fresh water</td>
<td>Crustaceans - Eucyclops sp.</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.8 mg/L Fresh water</td>
<td>Fish - Sander vitreus</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.2 mg/L Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.43 mg/L</td>
<td>Fish - Oncomelodus tshawyt'scha</td>
<td>75 days</td>
</tr>
</tbody>
</table>

Persistence and degradability
There is no data available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methyl-3-phenyl-5-[3- (trifluoromethyl)phenyl]-4-pyridone</td>
<td>3.15</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in soil
Soil/water partition coefficient (K<sub>oc</sub>) : 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 inspection 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

<table>
<thead>
<tr>
<th></th>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Date of issue : 09/15/2015

KMK Regulatory Services
### Section 14. Transport information

<table>
<thead>
<tr>
<th>Transport hazard class(es)</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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.

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

### Section 15. Regulatory information

| U.S. Federal regulations | TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
United States inventory (TSCA 8b): All components are listed or exempted.  
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Not listed  
Clean Air Act Section 602 Class I Substances | Not listed  
Clean Air Act Section 602 Class II Substances | Not listed  
DEA List I Chemicals (Precursor Chemicals) | Not listed  
DEA List II Chemicals (Essential Chemicals) | Not listed  
SARA 302/304 Composition/information on ingredients | No products were found.  
SARA 304 RQ | Not applicable.  
SARA 311/312 Classification | Immediate (acute) health hazard |
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methyl-3-phenyl-5-[3-[(trifluoromethy]phenyl]-4-pyridone</td>
<td>2.7</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

SARA 313

No products were found.

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 1
- Pennsylvania: The following components are listed: Proprietary ingredient 1
- California Prop. 65: No products were found.

International regulations

- Australia inventory (AICS): Not determined.
- China inventory (IECSC): Not determined.
- Japan inventory: Not determined.
- Korea inventory: Not determined.
- Malaysia Inventory (EHS Register): Not determined.
- New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
- Philippines inventory (PICCS): Not determined.
- Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapons

- Convention List Schedule I Chemicals: Not listed
- Convention List Schedule II Chemicals: Not listed
- Convention List Schedule III Chemicals: Not listed

Section 16. Other information

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

- Health: 1
- Flammability: 0
- Physical hazards: 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDGs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-5868.

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

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

- Health: 1
- Flammability: 0
- Instability: 0

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1957, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.
Section 16. Other information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 45 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History
Date of issue mm/dd/yyyy : 09/15/2015
Version : 1
Revised Section(s) : Not applicable.
Prepared by : KMK Regulatory Services Inc.
Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
UN = United Nations

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.
This page has intentionally been left blank.
Attachment 7: Potential Environmental Impacts

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

The USEPA has approved Sonar’s application in water used for drinking as long as residue levels do not exceed 0.15 parts per million (ppm) or 150 parts per billion (ppb). One ppm can be considered equivalent to approximately one second in twelve days or one foot in two hundred miles. Sonar applications can be made within one-fourth miles (1,320 ft.) of a potable water intake. This treatment concentration is well below the 0.15ppm (150ppb) allowable limit in water used for drinking (USEPA 1986). Human contact to fluridone may be through swimming in treated waters, drinking water from treated waters, by consuming fish from treated waters, or by consuming meat, poultry, eggs, or milk from livestock that were provided water from treated waters. Chena Lake, Chena Slough, and Totchaket Slough has no 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 and equivalent dose. A 20 kg (40lb) child would have to drink approximately 285 gallons of Sonar treated water every day to receive a NOEL-equivalent dose. The risk therefore is negligible even if a human were to accidentally ingest water directly after Sonar treatment. As Sonar is only applied intermittently throughout the year and in limited areas, and because it disappears from the environment, continuous exposure over a lifetime for humans, mammals, and other animals is improbable. Fluridone has been tested for acute and chronic toxicity, as well as reproductive effects, on mammals (rats, mice, guinea pigs, rabbits, dogs), birds (bobwhite quail, mallard duck), insects (honey bee, amphibods, daphnids, midge, chironomid), earthworms, fish (fathead minnows, catfish, mosquitofish, rainbow trout), and other aquatic animals (Hamelink et al. 2009, Kamarianos et al. 1989, Muir et al. 1982, McCowen et al. 1979).

Exposure of test animals dermally (skin contact) has shown minimal toxicity to mammals by acute, concentrated contact. Chronic dermal exposure in mammals showed no signs of toxicity and slight skin irritation. Mammals were shown to excrete fluridone metabolites within 72 hours of varying doses of up to 1400 ppm/day (McCowen et al. 1979). A dietary NOEL was established for birds that may feed on aquatic plants or insects in treated waters. The risk to birds via diet was considered negligible. The acute median lethal concentrations of fluridone were 4.3+-3.7mg/L for invertebrates and 10.4 +/- 3.0 mg/L for fish. Fish in treated ponds have shown no fluridone metabolites after treatment (Kamarianos et. al. 1989). Chronic studies showed no effects on daphnids, midge larvae, fathead minnows, or channel catfish and rapid rates of metabolic excretion (Hamelink et al. 2009, Muir et al. 1982). Insects that fed on bottom sediment had higher rates of fluridone intake and persistence than others (Muir et al. 1982). Honeybees and earthworms were not considered particularly sensitive to fluridone, even when directly dusted or placed in treated soil.
Fluridone has low bioaccumulation potential in fish, bird, or mammal tissues. Irrigation of crops using water treated with fluridone lead to only trace amounts detected in forage crops. Livestock consumption of Sonar-treated water resulted in negligible levels of Sonar in lean meat and milk. Sonar manufacturer recommendations indicate the livestock can be watered immediately from Sonar-treated water. The tolerance for milk is the same as for water (0.15 ppm).

**Fluridone effects on non-target vegetation**

The desired outcome is the eradication of elodea, but native submerged aquatic plants will be impacted as well. Madsen et al. (2002) evaluated nontarget plant effects 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 Chena Lake, Chena Slough, and Totchaket 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 on 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.
Attachment 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 application 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. All adjacent property owners 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 in writing at each public access point 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 Chena Lake, Chena Slough, and Totchaket Slough and followed accordingly. This will minimize any potential for adverse effects on all non-target environmental elements.
December 16, 2015

Joni Schafenberg
Director, Fairbanks SWCD
590 University Ave, Suite 2
Fairbanks, AK 99709

Re: AKG870009: Chena Slough & Chena Lakes Recreation Area, Totchaket Slough, FSWCD, Elodea

Dear Ms. Schafenberg,

This letter acknowledges that you have submitted a Notice of Intent (NOI) form to be covered under the APDES Pesticide General Permit (PGP). As the permittee, you are authorized to discharge to Waters of the U.S. under the terms and conditions of this permit ten (10) calendar days after acknowledgment of receipt of the permittee’s completed NOI is posted on ADEC’s Storm Water Permit Search website (http://www.dec.state.ak.us/Applications/Water/WaterPermitSearch/Search.aspx).

As stated above, this letter acknowledges receipt of a NOI. However, it is not an ADEC determination of the validity of the information you provided. Your eligibility for coverage under the Permit is based on the validity of the certification you provided. Your signature on the NOI certifies that you have read, understood, and are implementing all of the applicable requirements. An important aspect of this certification requires that you correctly determine whether you are eligible for coverage under this permit.

As you know, the PGP requires you to have developed and begun implementing a Pesticide Discharge Management Plan (PDMP) and establishes additional monitoring, corrective action, record keeping, and annual reporting requirements. You must also comply with any additional location-specific requirements applicable to Alaska.

For tracking purposes, the following number has been assigned to your Notice of Intent Form: AKG870009.

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

Sincerely,

[Signature]

James Rypkema
Section Manager, Storm Water and Wetlands

Enclosure: NOI

cc: w/enclosure (email)
    Karin Hendrickson, Pesticide Program Coordinator, DEC.EH/Pesticides
    Adrii Shenoy, FSWCD
    Heather Stewart, DNR, Palmer
Appendix D. Notice of Intent Form

Submit Notice of Intent Form to:

Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501
Phone: (907) 269-6285; Fax: (907) 269-3487; Email: DEC.Water.WQPermit@alaska.gov
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460
NOTICE OF INTENT (NOI) OF COVERAGE UNDER THE PESTICIDE GENERAL PERMIT (PGP) FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

Submission of this completed Notice of Intent (NOI) constitutes notice that the Operator identified in Section B intends to be authorized to discharge pollutants to Waters of the United States within the post-management area identified in Section C under EPA’s Pesticide General Permit. Submission of the NOI constitutes notice that the party identified in Section B of this form has read, understands, and meets the eligibility conditions of Part 1 of the permit; agrees to comply with all applicable terms and conditions of the permit; and understands that continued authority under the permit is contingent on maintaining eligibility for coverage. To be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement for large entities to prepare a Pesticide Discharge Management Plan (PDM) prior to NOI submittal. Refer to the instructions at the end of this form to complete your NOI.

Electronic Submission Waiver (skip if submitting through EPA's eNOI system)

I hereby acknowledge my waiver request from the use of EPA's electronic Notice of Intent system (eNOI) because my use of eNOI will incur undue burden or expense over my use of this paper NOI form.

Briefly describe the reason why use of the electronic system causes undue burden or expense.

A. Notice of Intent Status

1. Mark whether this is the first time you are requesting coverage under the Pesticide General Permit or if this is a change of information for a discharge already covered under the Pesticide General Permit. If this is a change of information, supply the RIFDES permit tracking number for the discharge.

   a. [ ] Original NOI Submission
   b. [ ] NOI Change of Information: ________ (RIFDES Permit Tracking Number)

Please note: When selecting A. 1b please fill out Section B (Operator Name and Hailing Address) and the fields of the NOI that need to be modified.

B. Operator Information

1. Operator Name:
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 
   g. 

2. IRS Employer Identification Number (EIN): ________

3. Operator Type (check one):
   a. [ ] Federal government
   b. [ ] State government
   c. [ ] Local government
   d. [ ] Mosquito or termite control district (or similar)
   e. [ ] Irrigation control district (or similar)
   f. [ ] Weed control district (or similar)
   g. [ ] Other. If other, provide brief description of type of operator:

4. Are you a large entity as defined in Appendix A of the permit? (check one):
   a. [ ] Yes
   b. [ ] No

Please note: If you answer “Yes” to question 4 you are required to develop a Pesticide Discharge Management Plan (PDM) and submit an Annual Report reflecting all pesticide uses for which you are requesting permit coverage under this NOI.

5. In which states are your post-management areas located? Please specify only one state per NOI:
   a. 
   b. 
   c. 

6. Mailing Address:
   a. Street:
   b. City:
   c. State:
   d. ZIP Code:
   e. Telephone:
   f. Fax:
   g. Contact Name:
   h. Email:

EPA FORM 8100-22

Submit Notice of Intent Form to:
Alaska Department of Environmental Conservation - Wastewater Discharge Authorization Program
555 Commerce Street, Anchorage, AK 99501
Phone: (907) 269-6066; Fax: (907) 269-3417; Email: DEC.Water.WQPermit@alaska.gov

Page 1 of 8
C. Pest Management Areas: Complete Section 0 for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area #1 of #2

1. Pest Management Area Name: Chena Slough

Provide a map of the location of the Pest Management Area (attach map) or describe the location of the Pest Management Area in detail.

Map of the past management area attached

2. Are any of your activities for which you are requesting coverage under this NOI occurring on Indian Country Lands? □ Yes □ No

If yes, identify the reservation or otherwise describe these areas:

3. Are any of your activities (in this past management area) for which you are requesting coverage under this NOI occurring on areas considered "federal facilities" as defined by the permit? □ Yes □ No

4. Mailing address and contact information of the pesticide applicator (or check boxes if same as provided in Section B):

a. Street: [Address]

b. City: [City]

c. State: [State]

d. ZIP Code: [ZIP Code]

e. Telephone: [Telephone]

f. Fax: [Fax]

g. Contact Name: [Name]

h. E-Mail: [E-Mail]

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

a. Mosquito and Other Flying Insect Pest Control

b. Weed and Algae Pest Control

c. Animal Pest Control

d. Forest Crop Pest Control

6. Resolving Waters (check one):

a. Coverage requested for all Waters of the United States within the Pest Management Area identified above.

b. Coverage requested specifically for the following Waters of the United States within the Pest Management Area identified above:


c. Coverage requested for all Waters of the United States within the Pest Management Area identified above except for:

7. Tier 1 Waters

Is coverage requested for discharge to a Tier 1 water (Outstanding National Resource Water) of the United States? □ Yes □ No

If yes, answer a and b:

a. Name of Tier 1 water(s):

b. Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient of the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.12.1 of the permit. Check one:

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

b. Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.
D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA’s Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 1. or # 2.

1. Identify the criterion for which you are eligible for permit coverage as it applies to Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat (i.e., Habitat) (check one):

a. ☑ Pesticide application activities will not result in a point source discharge to one or more Waters of the United States containing National Marine Fisheries Service (NMFS) Listed Resources of Concern, as defined in Appendix A, of the FGP.

b. ☐ Pesticide application activities for which permit coverage is being requested will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the FGP, but consultation with NMFS under Section 7 of the Endangered Species Act (ESA) has been concluded for pesticide application activities covered under the FGP. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally listed or threatened species and federally-designated critical habitat, and must have resulted in either:
   i. A biological opinion from NMFS finding no jeopardy to federally listed species and no destruction/adverse modification of federally-designated critical habitat; or
   ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.

c. ☐ Pesticide application activities for which permit coverage is being requested will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the FGP, but only in response to a Declared Pest Emergency Situation.

d. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the FGP, but only in response to a Declared Pest Emergency Situation. Eligible discharges include those where the Decision-maker includes in the NOI written correspondence from NMFS that pesticide application activities performed consistent with appropriate measures will avoid or eliminate the likelihood of adverse effects to NMFS Listed Resources of Concern.

e. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the FGP, but only in response to a Declared Pest Emergency Situation. Eligible discharges include those from pesticide application activities that are demonstrated by the Decision-maker as not likely to adversely affect NMFS Listed Resources of Concern or that have posed a lesser threat to the NMFS Listed Resources of Concern than does the discharge of the pesticide.

2. If you checked criterion 1 or criterion 1 above, provide the following information for all discharges to Waters of the United States containing NMFS Listed Resources of Concern identified within the pest management area for which permit coverage is being requested. For discharges pursuant to criterion d, Declared Pest Emergency Situations, information for items a through g should also include any discharges that have already occurred prior to NOI submission as well as the activities you performed in the 15 day period before submission of this NOI was required. In some cases, implementation of pest management practices in the permit may involve a degree of "adaptive management" such that exact timing and quantity of applications cannot be determined in advance for the duration of the permit. In such cases, the permits must provide the required information to the extent feasible and consistent with the implementation of the selected pest management measures:

a. Describe the location of the pest management area in detail or provide a map of the location: ____________________________

b. Peak(s) to be controlled: ______________________________________

c. Pesticide product(s) to be discharged and method of application: ____________________________

d. Planned quantity and rate of discharge(s) for each method of application: ____________________________

e. Number of planned discharges: ____________________________

f. Approximate date(s) of planned discharge(s): ____________________________

g. Your rationale supporting your determination that you meet the criterion for which you are submitting this NOI, including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects. For certifications pursuant to Criterion d, indicate whether the discharge is likely to adversely affect NMFS Listed Resources of Concern and, if so, any feasible measures to avoid or eliminate such adverse effects (attach additional pages as necessary): ____________________________
C. Pest Management Areas: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Post Management Area #2 of #2

1. Pest Management Area Name: CHENA LAKES RECREATION AREA

Provide a map of the location of the Pest Management Area (attach map) or describe the location of the Pest Management Area in detail.

MAP OF THE PEST MANAGEMENT AREA ATTACHED

2. Are any of your activities for which you are requesting coverage under this NOI occurring on Indian Country Lands?  

☐ Yes  ☐ No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI occurring on areas considered "federal facilities" as defined by the permit?  

☐ Yes  ☐ No

4. Mailing address and contact information of the pesticide applicator (or check here ☑ if same as provided in Section 5):

   a. Street:
   
   b. City:
   c. State:
   d. ZIP Code:

   e. Telephone:
   f. Fax:

   g. Contact Name:

   h. E-mail:

5. Pesticide Use Patterns to be Included in this Pest Management Area (check all that apply):

   a. ☐ Mosquito and Other Flying Insect Pest Control
   b. ☐ Weed and Algae Pest Control
   c. ☐ Animal Pest Control
   d. ☐ Forest Canopy Pest Control

6. Receiving Waters (check one):

   a. ☐ Coverage requested for all Waters of the United States within the Pest Management Area identified above.
   b. ☐ Coverage requested specifically for the following Waters of the United States within the Pest Management Area identified above:

   c. ☐ Coverage requested for all Waters of the United States within the Pest Management Area identified above except for:

7. Tier 3 Waters

   Is coverage requested for discharge to a Tier 3 water (Outstanding National Resource Water) of the United States?  ☐ Yes  ☐ No

   If yes, answer a and b:

   a. Name of Tier 3 water(s): 

   b. Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

8. Water Quality Impaired Waters

   Operators are not eligible for coverage under the permit for any discharge from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient of the pesticide designated for use or is a degrade of such an active ingredient. Des Part 1.1.2.1 of the permit. Check one:

   a. ☐ Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degrade of such an active ingredient

   b. ☐ Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degrade of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.
D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA’s Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area 2 of 4

1. Identify the criterion for which you are eligible for permit coverage as it applies to Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat (i.e., Habitat) (check one):
   a. ☒ Pesticide application activities will not result in a point source discharge to one or more Waters of the United States containing National Marine Fisheries Service (NMFS) Listed Resources of Concern, as defined in Appendix A, of the PGP.
   b. ☐ Pesticide application activities for which permit coverage is being requested will result in a point source discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but consultation with NMFS under Section 7 of the Endangered Species Act (ESA) has been conducted for pesticide application activities covered under the PGP. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of the pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:
      i. A biological opinion from NMFS finding no jeopardy to federally-listed species or no destruction/abandonment of federally-designated critical habitat;
      ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
   c. ☐ Pesticide application activities for which permit coverage is being requested will result in a point source discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but all “take” of these resources associated with such pesticide application activities has been authorized through NMFS issuance of a permit under section 10 of the ESA, and such authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat. (The term “take” means to harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. See Section 3 of the Endangered Species Act, 16 U.S.C. § 1531(9).)
   d. ☒ Pesticide application activities were, or will be, discharged to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but only in response to a Declared Pest Emergency Situation.
   e. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP. Eligible discharges include those where the Decision-maker includes in the NOI written correspondence from NMFS that pesticide application activities performed consistent with appropriate measures will avoid or eliminate the likelihood of adverse effects to NMFS Listed Resources of Concern.
   f. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP. Eligible discharges include those pesticide application activities that are demonstrated by the Decision-maker to not likely to adversely affect NMFS Listed Resources of Concern or that the pest poses a greater threat to the NMFS Listed Resources of Concern than does the discharge of the pesticide.

2. If you checked criterion d or criterion f above, provide the following information for all discharges to Waters of the United States containing NMFS Listed Resources of Concern identified within the pest management area for which permit coverage is being requested. For discharges pursuant to criterion d, Declared Pest Emergency Situations, information for items a through g should also include any discharges that have already occurred prior to NOI submission as well as the activities you performed in the 15 day period before submission of this NOI was required. In some cases, implementation of pest management measures required a degree of “adaptive management” such that exact timing and quantities of applications cannot be determined in advance for the duration of the permit. In such cases, the permits must provide the required information to the extent feasible and consistent with the implementation of the selected pest management measures.
   a. Describe the location of the pest management area in detail or provide a map of the location:

   b. Pest(s) to be controlled:

   c. Pesticide product(s) to be discharged and method of application:

   d. Planned quantity and rate of discharge(s) for each method of application:

   e. Number of planned discharges:

   f. Approximate date(s) of planned discharge(s):

   g. Your rationale supporting your determination that you meet the criteria for which you are submitting this NOI, including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects. For certifications pursuant to Criterion D, indicate whether the discharge is likely to adversely affect NMFS Listed Resources of Concern and, if so, any feasible measures to avoid or eliminate such adverse effects (attach additional pages as necessary):
E. Certification

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

Printed Name: [Redacted]
Title: [Redacted]
E-Mail: jonischmais@gmail.com

Signature/Responsible Official: [Redacted] Date: [Redacted]

NOI Preparer (Complete if NOI was prepared by someone other than the certifier)
Preparer Name: [Redacted]
Organization: [Redacted]
Phone: [Redacted] Ext [Redacted] Date: [Redacted]
E-Mail: [Redacted]
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

NOTICE OF INTENT (NOI) OF COVERAGE UNDER THE PESTICIDE GENERAL PERMIT (PGP) FOR DISCHARGES FROM THE APPLICATION OF PESTICIDES

Submission of this completed Notice of Intent (NOI) constitutes notice that the Operator identified in Section B intends to be authorized to discharge pollutants to Waters of the United States within the post management area identified in Section C under EPA’s Pesticide General Permit. Submission of this NOI constitutes notice that the party identified in Section A of this form has read, understands, and meets the eligibility conditions of Part 1 of the permit, agrees to comply with all applicable terms and conditions of the permit, and understands that continued authorization under the permit is contingent on maintaining eligibility for coverage. To be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement for large entities to prepare a Pesticide Discharge Management Plan (PDMP) prior to NOI submittal. Refer to the instructions at the end of this form to complete your NOI.

Electronic Submission Waiver (skip if submitting through EPA’s eNOI system)

☑️ I hereby acknowledge my waiver request from the use of EPA’s electronic Notice of Intent system (eNOI) because my use of eNOI will incur undue burden or expense over my use of this paper NOI form.

Briefly describe the reason why use of the electronic system causes undue burden or expense.

eNOI not available

A. Notice of Intent Status

1. Mark whether this is the first time you are requesting coverage under the Pesticide General Permit or if this is a change of information for a discharge already covered under the Pesticide General Permit. If this is a change of information, supply the NPDES permit tracking number for the discharge.

   a. ☐ Original NOI Submission
   b. ☑️ NOI Change of Information: AKG870009 (NPDES Permit Tracking Number)

   Please note: When selecting A.2 please fill out Section B (Operator Name and Mailing Address) and the fields of the NOI that need to be modified.

B. Operator Information

1. Operator Name: AK Dept. of Natural Resources

2. IRS Employer Identification Number (EIN): 92-6001185

3. Operator Type (check one):
   a. ☐ Federal government
   b. ☑️ State government
   c. ☐ Local government
   d. ☐ Mosquito control district (or similar)
   e. ☐ Irrigation control district (or similar)
   f. ☐ Weed control district (or similar)
   g. ☐ Other: If other, provide brief description of type of operator: 

4. Are you a large entity as defined in Appendix A of the permit? (check one):
   ✔️ Yes ☐ No

   Please note: If you answer “Yes” to question 4 you are required to develop a Pesticide Discharge Management Plan (PDMP) and submit an Annual Report reflecting all pesticide uses for which you are requesting permit coverage under this NOI.

5. In which state are your post-management areas located? Please specify only one state per NOI: AK

6. Mailing Address:
   a. Street: 5310 Bodenburg Spur Rd
   b. City: Palmer
   c. State: AK
   d. ZIP Code: 99645
   e. Telephone: 907-745-8721
   f. Fax: 
   g. Contact Name: Heather Stewart
   h. E-mail: heather.stewart@alaska.gov
C. Pest Management Areas: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area #3 of #3

1. Pest Management Area Name: Totchakel Slough

Provide a map of the location of the Pest Management Area (attach map) or describe the location of the Pest Management Area in detail.

Map of the pest management area attached.

2. Are any of your activities for which you are requesting coverage under this NOI occurring on Indian Country lands? Yes No

If yes, identify the reservation or otherwise describe those areas:

Partial ownership of land surrounding the slough is by Toqhothele Inc, the local Native corporation.

3. Are any of your activities (or this pest management area) for which you are requesting coverage under this NOI occurring on areas considered "federal facilities" as defined by the permit? Yes No

4. Mailing address and contact information of the pesticide applicator (or check here if same as provided in Section B):

   a. Street:

   b. City:       c. State:     d. ZIP Code: 

   e. Telephone:  f. Fax:       

   g. Contact Name:

   h. E-mail:

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

   a. Mosquito and Other Flying Insect Pest Control
   b. Weed and Algae Pest Control
   c. Animal Pest Control
   d. Forest Canopy Pest Control

6. Receiving Waters (check one):

   a. Coverage requested for all Waters of the United States within the Pest Management Area identified above.

   b. Coverage requested specifically for the following Waters of the United States within the Pest Management Area identified above.

   c. Coverage requested for all Waters of the United States within the Pest Management Area identified above except for:

7. Tier 3 Waters

   Is coverage requested for discharge to a Tier 3 water (Outstanding National Resource Water) of the United States? Yes No

   If yes, answer a and b:

   a. Name of Tier 3 water(s):

   b. Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

   Water Quality Impaired Waters

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

   a. Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradation of such an active ingredient

   b. Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradation of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

EPA FORM 6100-22

Submit Notice of Intent Form to:
Alaska Department of Environmental Conservation - Wastewater Discharge Authorization Program
555 Cordova Street, Anchorage, AK 99501

88
D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA’s Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area 3 of 3

1. Identify the criterion for which you are eligible for permit coverage as it applies to Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat (i.e., Habitat) (check one):

   a. ☐ Pesticide application activities will not result in a point source discharge to one or more Waters of the United States containing National Marine Fisheries Service (NMFS) Listed Resources of Concern, as defined in Appendix A of the PGP.

   b. ☐ Pesticide application activities for which permit coverage is being requested will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but consultation with NMFS under Section 7 of the Endangered Species Act (ESA) has been concluded for pesticide application activities covered under the PGP. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addresses the effects of pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat, and must have resulted in either:

      i. A biological opinion from NMFS finding no jeopardy to federally-listed species and no destruction/adverse modification of federally-designated critical habitat; or

      ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.

   c. ☐ Pesticide application activities for which permit coverage is being requested will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but all “take” of these resources associated with such pesticide application activities has been authorized through NMFS issuance of a permit under section 10 of the ESA, and such authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat. (The term “take” means to harass, pursue, hurt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. See Section 3 of the Endangered Species Act, 16 U.S.C. § 1532 (19).)

   d. ☐ Pesticide application activities were, or will be, discharged to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP, but only in response to a Declared Pest Emergency Situation.

   e. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP. Eligible discharges include those where the Decision-maker includes in the NOI written correspondence from NMFS that pesticide application activities performed consistent with appropriate measures will avoid or eliminate the likelihood of adverse effects to NMFS Listed Resources of Concern.

   f. ☐ Pesticide application activities for which permit coverage is being requested in the NOI will discharge to one or more Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the PGP. Eligible discharges include those from pesticide application activities that are demonstrated by the Decision-maker to be not likely to adversely affect NMFS Listed Resources of Concern or that the pest poses a greater threat to the NMFS Listed Resources of Concern than does the discharge of the pesticide.

2. If you checked criterion d or criterion f above, provide the following information for all discharges to Waters of the United States containing NMFS Listed Resources of Concern identified within the pest management area for which permit coverage is being requested. For discharges pursuant to criterion d, Declared Pest Emergency Situations, information for items a through g should also include any discharge that has already occurred prior to NOI submission as well as the activities you performed in the 15 day period before submission of this NOI was required. In some cases, implementation of pest management measures as specified in the permit involves a degree of "adaptive management" such that exact timing and quantity of applications cannot be determined in advance for the duration of the permit. In such cases, the permittee must provide the required information to the extent feasible and consistent with the implementation of the selected pest management measures.

   a. Describe the location of the pest management area in detail or provide a map of the location:

   b. Pest(s) to be controlled:

   c. Pesticide product(s) to be discharged and method of application:

   d. Planned quantity and rate of discharge(s) for each method of application:

   e. Number of planned discharges:

   f. Approximate date(s) of planned discharge(s):

   g. Your rationale supporting your determination that you meet the criterion for which you are submitting this NOI, including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects. For certifications pursuant to Criterion D, indicate whether the discharge is likely to adversely affect NMFS Listed Resources of Concern and, if so, any feasible measures to avoid or eliminate such adverse effects (attach additional pages as necessary):
E. Certification
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name:  John Schaeferberg
Title:  Director, Fairbanks SWCD
E-Mail:  jbnise@gmail.com
Signature/Responsible Official:  
Date:  11/23/2015

NOI Preparer (Complete if NOI was prepared by someone other than the certifier)
Preparer Name:  Aditi Sheroy
Organization:  Fairbanks SWCD
Phone:  907-479-1213 Ext. 104
E-Mail:  aditi.sheroy@gmail.com

Date:  11/23/2015
Who Must File a NOI with EPA?

Any Operator, as described in the Part 1.2.2 of the permit and meeting the eligibility requirements identified in Part 1.1 of the permit and Table 1 below must submit a complete and accurate NOI. As required in the permit, only certain Operators that are also Decision-makers must submit NOIs.

<table>
<thead>
<tr>
<th>PGP Part/ Pesticide Use</th>
<th>Which Decision-Makers Must Submit NOIs?</th>
<th>For Which Pesticide Application Activities?</th>
</tr>
</thead>
<tbody>
<tr>
<td>All four use patterns identified in Part 1.1.1</td>
<td>An Owner with an Eligible Discharge to a Tier 3 water</td>
<td>Activities resulting in a discharge to a Tier 3 water</td>
</tr>
<tr>
<td>All four use patterns identified in Part 1.1.1</td>
<td>Any Decision-maker with an Eligible Discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
<td>Activities resulting in a discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
</tr>
</tbody>
</table>

1.1.1(a) Mosquito and Other Fying Insect Pest Control

Any Agency for which pest management for land resource stewardship is an integral part of the organization’s operations.

1.1.1(b) Weed and Algae Pest Control

Any Agency for which pest management for land resource stewardship is an integral part of the organization’s operations.

1.1.1(c) Animal Pest Control

Any Agency for which pest management for land resource stewardship is an integral part of the organization’s operations.

1.1.1(d) Forest Canopy Pest Control

Any Agency for which pest management for land resource stewardship is an integral part of the organization’s operations.

Table 1. Decision-Makers Required to Submit NOIs

One NOI can be submitted for multiple pest management areas in a state for which you are seeking permit coverage; however, no more than one state can be included on any single NOI form.

When to File the NOI Form?

Do not file your NOI until you have obtained and thoroughly read a copy of the permit. A copy of the permit is on EPA’s website (www.epa.gov/pesticides). The permit describes procedures to ensure your eligibility, prepare your Pesticide Discharge Management Plan (PDMP), and complete the NOI form questions—all of which must be done before you sign the NOI certification statement attesting to the accuracy and completeness of your NOI. You will also need a copy of the permit once you have obtained coverage so that you can comply with the implementation requirements of the permit. Note: PDM is not required for 1) any application made in response to a Declared Pest Emergency Situation, as defined in Appendix A of the permit; or 2) any Decision-maker that is required to submit an NOI solely because their application results in a point source discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A of the permit.

All eligible discharges are authorized for permit coverage through January 12, 2017 without submission of a NOI. For any discharges after January 12, 2012, Decision-makers meeting the eligibility requirements identified in Part 1.1 of the permit and Table 1 must submit a complete and accurate NOI according to Tables 2 and 3 and consist with the requirements of Part 1.2 of the permit. For example, for discharges occurring on or after January 12, 2012 but continuing after January 12, 2012, NOIs are due no later than January 3, 2013 to ensure uninterrupted coverage.

Table 2. NOI Submittal Deadlines and Discharge Authorization Dates for Discharges from the Application of Pesticides

<table>
<thead>
<tr>
<th>Operator Type</th>
<th>NOI Submission Deadline</th>
<th>Discharge Authorization Dates for Discharges from the Application of Pesticides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Decision-maker with any discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
<td>At least 30 days after beginning discharging,</td>
<td>Immediately upon beginning to discharge to a Declared Pest Emergency Situation.</td>
</tr>
<tr>
<td>Any Decision-maker with any discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
<td>At least 10 days before any discharge to a Declared Pest Emergency Situation.</td>
<td>Immediately upon beginning to discharge for activities conducted in response to a Declared Pest Emergency Situation.</td>
</tr>
<tr>
<td>Any Decision-maker with any discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
<td>At least 10 days before any discharge to a Declared Pest Emergency Situation.</td>
<td>No earlier than 30 days after EPA posts on the Internet a receipt of a complete and accurate NOI.</td>
</tr>
<tr>
<td>Any Decision-maker with any discharge to Waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix A</td>
<td>At least 10 days before any discharge to a Declared Pest Emergency Situation.</td>
<td>No earlier than 30 days after EPA posts on the Internet a receipt of a complete and accurate NOI.</td>
</tr>
</tbody>
</table>

If you have questions about whether you need to file a NOI or questions about completing the form, see www.epa.gov/pesticides or contact the NOI Center toll free at 855-332-7755.
1. On the basis of a review of an NOI or other information, EPA may delay authorization to discharge beyond any timeframe identified in Table 2, determined by the technology-based and water-quality-based emission limitations for other conditions are necessary, or deny coverage under this permit and require submission of an application for an individual NPDES permit, as detailed in Part 1.3 of the permit.

2. Within 36 days after EPA posts on the internet receipt of a complete and accurate NOI for areas with NMFS Listed Resources of Concern, as defined in Appendix A of the permit, NMFS will provide EPA with a determination as to whether it believes the eligibility criteria of "not likely to adversely affect listed species or designated critical habitat" has been met, could be met with conditions that NMFS identifies, or has not been met. EPA expects to rely on NMFS’ determination in deciding whether to withhold authorization. If NMFS does not provide EPA with this information within 36 days of EPA posting on the Internet receipt of a complete and accurate NOI, the discharges will be authorized 30 days after EPA posts on the Internet receipt of a complete NOI.

3. When an NOI is submitted to the National Pollutant Discharge Elimination System (NPDES) program, NMFS will have 30 days after submission of an NOI to provide EPA with a determination as to whether the eligibility criteria of "not likely to adversely affect listed species or designated critical habitat" has been met, or could be met with conditions that NMFS identifies, or has not been met. EPA explains that this provision is in place to allow continued permit coverage and that additional conditions are necessary. If NMFS does not provide EPA with a determination within 36 days of EPA posting on the Internet receipt of a complete and accurate NOI, authorization for these discharges will continue if EPA identifies additional conditions or includes additional permit conditions recommended by NMFS, as necessary to qualify discharges as eligible for coverage beyond 90 days under the COSP, those conditions remain in effect for the life of the permit.

4. EPA may authorize certain discharges in less than 30 days, but only for 30 days, for any discharges authorized under Criteria E, F, or G of Part 1.12.4.4 (for which NMFS has already evaluated the effects of these discharges).

### Table 3: NOI Change of Information Submittal Dates and Discharge Authorization Dates

<table>
<thead>
<tr>
<th>Operator Type</th>
<th>NOI Submission Deadline</th>
<th>Discharge Authorization Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Decision-maker receiving EPA for a post management area not identified on a previously submitted NOI for Tier 3 water, or Waters of the United States containing NMFS Listed Resources of Concern.</td>
<td>At least 10 days before beginning to discharge in that newly identified area unless discharges are in response to a Declared Pest Emergency Situation in which case not later than 30 days after beginning discharge.</td>
<td>No earlier than 10 days after EPA posts on the Internet the receipt of a complete and accurate NOI unless discharges are in response to a Declared Pest Emergency Situation in which case coverage is available immediately upon beginning to discharge from activities conducted in response to Declared Pest Emergency Situation.</td>
</tr>
<tr>
<td>Any Decision-maker discharging to a Tier 3 water not identified by name on a previously submitted NOI for this permit, except for Tier 3 waters containing NMFS Listed Resources of Concern.</td>
<td>At least 10 days before beginning to discharge in that newly identified area unless discharges are in response to a Declared Pest Emergency Situation in which case not later than 30 days after beginning discharge.</td>
<td>No earlier than 10 days after EPA posts on the Internet the receipt of a complete and accurate NOI unless discharges are in response to a Declared Pest Emergency Situation in which case coverage is available immediately upon beginning to discharge from activities conducted in response to Declared Pest Emergency Situation.</td>
</tr>
</tbody>
</table>

Where to File the NOI Form

The Decision-maker must prepare and submit the NOI using EPA’s electronic Notice of Intent System (eNOI) available on EPA’s website (www.epa.gov/epaoswer/pastpesticides) unless eNOI is otherwise unavailable or the Decision-maker has filed a waiver from the requirement to use eNOI for submission of the NOI. The Electronic Submission Waiver is at the top of this form. Decision-makers wishing to use the waiver must certify to EPA on this form that use of eNOI will incur undue burden or expense over the use of the paper NOI form and then provide a basis for that determination.

EPA will immediately post on the pesticide eNOI Website all NOIs received. Late NOIs will be accepted, but authorization to discharge will not be retroactive.

If you have questions, contact EPA’s Pesticides Notice Processing Center toll free at 866-352-7756.

- If you file a paper NOI, submit the original with a signature in ink. Do not send copies. Also, typed copies will not be accepted.
- If you are required to develop a POUP, that document does not need to be submitted for review specifically requested by EPA. You must keep a copy of the POUP on-site or otherwise make it available to facility personnel responsible for implementing provisions of the permit.

Completion of the NOI Form

To complete this form, type or print in uppercase letters in the appropriate areas only. Please make sure you complete all questions. Make sure you make a photocopy for your records before you send the completed original form to the address above. You may also use this paper form as a checklist for the information you will need when filling an NOI electronically via EPA’s Pesticides eNOI System.

**Section A. NOI Status**

1. Indicate if this is the first time you are requesting coverage under this permit. If this is the first time you are requesting coverage, refer to Table 2 for NOI submittal deadlines and discharge authorization dates. Note: All eligible discharges are authorized for permit coverage through January 12, 2012 without submission of an NOI.

EPA Form 610-00-22

Submit Notice of Intent Form to:
Alaska Department of Environmental Conservation • Wastewater Discharge Authorization Program
555 Cordova Street, Anchorage, AK 99501

Page 6 of 8

92
b. Check this box if this is a change of information for a discharge already covered under the permit. If this is a change of information, supply the NPDES permit tracking number that you received in your confirmation letter or e-mail from EPA’s Pesticides Notice Processing Center. You can find the tracking number assigned to your previous NOI using EPA’s eNOI System (www.epa.gov/pesticides/eNOI). For additional details regarding a change of information, see Table 3. Also fill out Section B of this form (Operator Name and Mailing Address) and the associated fields of information that need to be modified on the NOI.

Section B. Operator Information

1. Provide the legal name of the person, firm, public organization or any other public entity that is the Decision-maker for the pesticides applications described in this notice. A Decision-maker is an Operator who has control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to Waters of the United States.

2. Provide the Employer/identification number (Ein) from the Internal Revenue Service (IRS), commonly referred to as your tax payer ID number. If the operator does not have an Ein, enter “NA” in the space provided.

3. Indicate the type of Operator: federal government, state government, local government, mosquito control district (or similar), irrigation control district (or similar), weed control district (or similar), or other. If other, provide brief description of type of Operator in the space provided.

4. Indicate whether or not you are a “large entity” as defined in Appendix A of the permit. Note that if you are a large entity, you are required to develop a Pesticide Discharge Management Plan (PDMP) and submit future Annual Reports reflecting all pesticide use for which you are requesting permit coverage under this NOI.

5. Indicate which state your pest management areas are located. Specify only one state per NOI. If there is more than one state, additional NOIs must be submitted.

6. Provide the Decision-maker’s mailing address, telephone number, fax number (optional), name, and e-mail address. Correspondence will be sent to this address.

Section C. Pest Management Area: Information for each Pest Management Area for which coverage under EPA’s Pesticide General Permit 9 is desired.

1. Indicate whether you are submitting an NOI for multiple pest management areas. A pest management area is the area of land, including any water, for which you have responsibility and are authorized to conduct pest management activities as covered by this permit (e.g., if you are a mosquito control district, your pest management area is the total area of the district). You must complete a Section C for each pest management area. If you are submitting an NOI for only one area, enter “Y” or “1.” If you are submitting NOIs for multiple pest management areas, enter the number for the NOI for which you are requesting coverage followed by the total number of pest management areas for which you are requesting coverage. Enter the name of the pest management area. Attach a map of the pest management area or describe the location of the pest management area in the space provided.

2. Indicate whether pesticide application will occur on Indian County Lands, and if so, provide the name of the reservation. If applicable.

3. Indicate whether pesticide application will occur on a Federal Facility, as defined in Appendix A of the permit.

4. Enter the mailing address of the contact person for the pest management area. If this address is the same as the Decision-maker’s mailing address, indicate that by checking the box. If it is a different address, enter the mailing address, telephone number, fax number (optional), contact name, and e-mail address.

5. Indicate the pesticide use patterns for the pest management area for which the NOI is required. For additional information regarding pesticide use patterns, see Part I.11 of the permit. Check all the use patterns that apply to the pest management area.

6. Indicate if permit coverage is being requested for all Waters of the United States within the pest management area or permit coverage is being requested to specific Waters of the United States within the pest management area. If specific waters are being requested, write the names of the waterbodies. If permit coverage is being requested for all waters of the United States within the pest management area except for specific waterbodies, name those specific waterbodies in the space provided. EPA’s Water Locator Tool can help you identify the classes receiving water to your facility (http://water.epa.gov/policy/ets/strmwater/mfmltool.cfm).

7. Indicate if permit coverage is being requested to discharge to a Tier 3 (Outstanding Natural Resource/Water) Waters of the United States. If yes, write the name(s) of the Tier 3 water(s) in the space provided. Describe and demonstrate why it is necessary to apply the pesticide discharge to protect the water quality, environment, and/or public health and that such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis.

8. Verify that waters within the pest management area are either not impaired by substances which are other active ingredients in the pesticide planned for use or degradates of such active ingredients. OR that evidence shows that the target waters in question are no longer impaired. See Part 1.12.1 of the permit for more information on discharges to Water Quality Impaired Waters.

Section D. Endangered Species Protection. Complete Section D for each Pest Management Area for which coverage under EPA’s PGP is desired.

Identify the Pest Management Areas, corresponding to those in Part C.

1. Coverages under the permit is available only for discharges and discharge-related activities, as defined in Appendix A of the permit, that are not likely to jeopardize the continued existence of any species that are federally-listed as an endangered or threatened ("Listed") under subsection 1533(a)(1) of the Endangered Species Act or are likely to result in the adverse modification or destruction of habitat that is federally-designated as critical under the ESA ("critical habitat") except as provided in criterion 2, b, and for at least 60 days, d, below. For a subset of listed species and critical habitat, identified as NWF’s Latest Records of Concern and defined in Appendix A, there are specific criteria for determining eligibility. To demonstrate eligibility, you must meet one or more of the six criteria (a-f) for the entire term of coverage under the permit.

2. If you checked criterion d or criterion f, you are required to provide a description of the location of the pest management area or a map of the location, the pest(s) to be controlled, pesticide product(s) to be discharged and method of application, planned quantity and rate of discharge(s), for each application method, number of planned discharges, approximate date(s) of planned discharge(s), and the rational supporting your determination that you meet the criterion for which the Decision-maker is submitting this NOI and documentation demonstrating the finding of “not likely to adversely affect.” If you certify under criteria d and do not hear from EPA within 30 days, you may assume your discharge is authorized. For certifications pursuant to criterion d, indicate whether the discharge is likely to adversely affect NWF’s Latest Records of Concern today or if as, any feasible measures to avoid or eliminate such adverse effects. If you are certifying under criterion f which allows you to discharge 15 days before you submit your NOI, you should describe both the pest/emergency activities you plan to do after you submit your NOI as well as the activities you performed in that 15 day period before you had to submit the NOI. See Part 1.12.4 of the permit for more information regarding Endangered and Threatened Species Critical Habitat Protection. If you certify under criterion d and do not hear from EPA, you may assume that permit authorization continues unless notified otherwise. You may use discharges in less than 30 days, but no fewer than 10 days, for any discharges authorized under criterion 2, b, or f for which NWF has already evaluated the effects of these discharges. If you certify under one of these criteria and do not hear from EPA within 30 days, you may assume your discharge is authorized.

Section E. Certification

Enter the certifier’s printed name and title. Sign and date the form. For more information about the certification statement and signature, see Appendix B of the permit. (CAUTION: An unsigned or unnotarized form will not be accepted.) Federal statutes provide for severe penalties for submitting false information. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, means:
(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated activity including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements, and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: by a general partner or the proprietor; or
For a municipal, state, federal, or other public facility: by either a principal executive or a ranking elected official.

If the NOI was prepared by someone other than the certifier (for example, if the NOI was prepared by the PDPG contact or a consultant for the certifier’s signature), include the name, organization, phone number and e-mail address of the NOI preparer.
Paperwork Reduction Act Notice

The public reporting and recordkeeping burden for this collection of information is estimated to average 2.5 hours or 100 minutes per response.

Send comments on the agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed NOI form to that address.
Proposed Pest management area 1 of 2:
Chena Slough (section of the slough between the two red arrows)
Proposed pest management area 2 of 2: Chena Lakes Recreation Area

Overview Map: Fairbanks and North Pole area of interest
### Attachment 12: Additional Applicators

<table>
<thead>
<tr>
<th>APPLICATOR</th>
<th>(Person, organization, or business who will be applying the pesticides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization/business</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>Contact person</td>
<td>Jeremy Mears</td>
</tr>
<tr>
<td>Mailing address</td>
<td>101 12th Ave. Rm110</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Fairbanks, AK 99701</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>907-456-0390</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:Jeremy_mears@fws.gov">Jeremy_mears@fws.gov</a></td>
</tr>
<tr>
<td>Pesticide Applicator Certification Number</td>
<td>9904-1706-2/6</td>
</tr>
<tr>
<td>18 AAC 90.515(13)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLICATOR</th>
<th>(Person, organization, or business who will be applying the pesticides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization/business</td>
<td>Fairbanks Soil and Water Conservation District</td>
</tr>
<tr>
<td>Contact person</td>
<td>Jessica Guritz</td>
</tr>
<tr>
<td>Mailing address</td>
<td>590 University Ave #2</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Fairbanks, AK 99709</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>907-479-1213</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:jlguritz@gmail.com">jlguritz@gmail.com</a></td>
</tr>
<tr>
<td>Pesticide Applicator Certification Number</td>
<td>9886-1805-2/3/6/9</td>
</tr>
<tr>
<td>18 AAC 90.515(13)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLICATOR</th>
<th>(Person, organization, or business who will be applying the pesticides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization/business</td>
<td>SePRO Corporation</td>
</tr>
<tr>
<td>Contact person</td>
<td>Andrew Skibo</td>
</tr>
<tr>
<td>Mailing address</td>
<td>1145 Aruba Drive</td>
</tr>
<tr>
<td>City/State/Zip</td>
<td>Fort Collins, CO 80525</td>
</tr>
<tr>
<td>Telephone Number</td>
<td>303-229-9622</td>
</tr>
<tr>
<td>Email Address</td>
<td><a href="mailto:andrew.skibo@sepro.com">andrew.skibo@sepro.com</a></td>
</tr>
<tr>
<td>Pesticide Applicator Certification Number</td>
<td>9760-1605-6/9</td>
</tr>
<tr>
<td>18 AAC 90.515(13)</td>
<td></td>
</tr>
<tr>
<td><strong>APPLICATOR</strong> (Person, organization, or business who will be applying the pesticides)</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Organization/business</strong></td>
<td>Alaska Department of Natural Resources</td>
</tr>
<tr>
<td><strong>Contact person</strong></td>
<td>Heather Stewart</td>
</tr>
<tr>
<td><strong>Mailing address</strong></td>
<td>5310 S. Bodenburg Spur</td>
</tr>
<tr>
<td><strong>City/State/Zip</strong></td>
<td>Palmer AK 99645</td>
</tr>
<tr>
<td><strong>Telephone Number</strong></td>
<td>907-745-8721</td>
</tr>
<tr>
<td><strong>Email Address</strong></td>
<td><a href="mailto:Heather.stewart@alaska.gov">Heather.stewart@alaska.gov</a></td>
</tr>
<tr>
<td><strong>Pesticide Applicator Certification Number</strong></td>
<td>9972-1903-6/9</td>
</tr>
</tbody>
</table>

18 AAC 90.515(13)
## Attachment 13: Detailed Application Prescription

<table>
<thead>
<tr>
<th>Year</th>
<th>Product</th>
<th>Application 1</th>
<th>Application 2</th>
<th>Application 3</th>
<th>Total Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rate (ppb)</td>
<td>gal or lbs (total acre-ft)</td>
<td>Rate (ppb)</td>
<td>gal or lbs (total acre-ft)</td>
</tr>
<tr>
<td><strong>Chena Lake</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Sonar Genesis (L,B)</td>
<td>7.0</td>
<td>141.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SonarONE (P, V)</td>
<td>6.0</td>
<td>1214.6</td>
<td>3.0</td>
<td>607.3</td>
</tr>
<tr>
<td>2017</td>
<td>SonarONE (P, V)</td>
<td>7.0</td>
<td>1417.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>SonarONE (P, V)</td>
<td>7.0</td>
<td>1417.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Chena Slough** | | | | | | | | |
| 2016 | Sonar Genesis (L,I) | 8.0 | 244.0 | | | | | 244.0 |
| | H4C (P, V) | 70.0 | 2494.6 | 50.0 | 1781.8 | | | 106.9 |
| 2017 | Sonar Genesis (L,I) | 8.0 | 232.0 | | | | | 95.0 |
| | H4C (P, V) | 50.0 | 1781.8 | 40.0 | 1687.3 | | | 95.0 |
| 2018 | Sonar Genesis (L,I) | 8.0 | 232.0 | | | | | 95.0 |
| | H4C (P, V) | 50.0 | 1781.8 | 40.0 | 1687.3 | | | 95.0 |
| 2019 | Sonar Genesis (L,I) | 4.0 | 164.7 | | | | | 79.1 |
| | H4C (P, V) | 50.0 | 1781.8 | 25.0 | 1054.6 | | | 79.1 |

| **Totchaket Slough** | | | | | | | | |
| 2016 | Sonar Genesis (L,B) | 5.3 | 20.0 | | | | | 20.0 |
| | SonarONE (P, V) | 30.0 | 1127.5 | 20.0 | 751.7 | 20.0 | 751.7 | 132.0 |
| 2017 | Sonar Genesis (L,B) | 5.3 | 20.0 | | | | | 20.0 |
| | SonarONE (P, V) | 30.0 | 1127.5 | 20.0 | 751.7 | 20.0 | 751.7 | 132.0 |
| 2018 | Sonar Genesis (L,B) | 5.3 | 20.0 | | | | | 20.0 |
| | SonarONE (P, V) | 30.0 | 1127.5 | 20.0 | 751.7 | 20.0 | 751.7 | 132.0 |

*KEY:

**Formulation:** L = Liquid, P = Pellet

**Application Method:** B = Boat Tank, I = Injection System, V = Vortex Spreader