ENVIRONMENTAL HAZARDS

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

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

PRODUCT INFORMATION

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

Herbicidal symptoms of SonarOne appear in 7 - 10 days and appear as white (chlorotic) or pink growing points. Under optimum conditions 30 - 90 days are required before the desired level of aquatic weed management is achieved. Species susceptibility to this product may vary depending on time of year, stage of growth and water movement. For best results, apply this product prior to initiation of weed growth or when weeds begin active growth. Application to mature target plants may require an application rate at the higher end of the specified rate range and may take longer to control.

SonarOne is not corrosive to application equipment.

This label provides recommendations on the use of a chemical analysis for the active ingredient. SePRO Corporation recommends the use of High-Performance Liquid Chromatography (HPLC) for the determination of the active ingredient concentration in the water. Contact SePRO Corporation to incorporate this test, known as a 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 Restrictions

- **Obtain Required Permits:** Consult with appropriate state or local water authorities before applying this product to public waters. Permits and/or posting treatment notification may be required by state or local public agencies.

- **New York State:** Application of SonarOne is not permitted in waters less than two (2) feet deep, except as permitted under FIFRA Section 24(c), Special Local Need registration.

- **Hydroponic Farming:** Do not use water from a Sonar-treated area for hydroponic farming unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - o A FastTEST has been run and the concentration in water at the intake is less than 1 ppb; or
  - o A filtration or water treatment process following water intake has been verified analytically to reduce the concentration of irrigation water below 1 ppb.

- **Greenhouse and Nursery Plants:** Do not use water from a Sonar-treated area for greenhouse and nursery irrigation unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - o For the irrigation of woody ornamental plants, a FastTEST has been run and the concentration at the intake is less than 5 ppb; or
  - o For the irrigation of other greenhouse or nursery plants, the concentration is confirmed less than 1 ppb; or
- A filtration or water treatment process following water intake has been verified analytically to reduce the concentration in potential irrigation water below either the 1 or 5 ppb levels cited above.

### Water Use Restrictions Following Application with SonarOne (Days)

<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>(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>

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

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

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

### Use Precautions

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

#### Application Rate

<table>
<thead>
<tr>
<th>Application Site</th>
<th>Established Tree Crops</th>
<th>Established Row Crops/Turf/Plants</th>
<th>Newly Seeded Crops/Seedbeds or Areas to be Planted Including Overseeded Golf Course Greens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ponds and Static Canals1</td>
<td>7</td>
<td>30</td>
<td>FastTEST required</td>
</tr>
<tr>
<td>Canals</td>
<td>7</td>
<td>7</td>
<td>FastTEST required</td>
</tr>
<tr>
<td>Rivers</td>
<td>7</td>
<td>7</td>
<td>FastTEST required</td>
</tr>
<tr>
<td>Lakes and Reservoirs11</td>
<td>7</td>
<td>7</td>
<td>FastTEST required</td>
</tr>
</tbody>
</table>

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

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

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

### PLANT CONTROL INFORMATION

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

### Vascular Aquatic Plants Controlled By SonarOne:

#### Submersed Plants:
- bladdernut (Utricularia spp.)
- common coontail (Ceratophyllum demersum)1
- common Elodea (Elodea canadensis)1
- egeria, Brazilian Elodea (Egeria densa)
- fanwort, Cabomba (Cabomba caroliniana)
- hydrilla (Hydrilla verticillata)
- naiad (Najas spp.)1
- pondweed (Potamogeton spp., except Illinois pondweed)1
- watermilfoil (Myriophyllum spp. except variable-leaf milfoil)

#### Floating Plants:
- salvinia (Salvinia spp.)
- duckweed (Lemna spp., Spirodela1, and Landoltia spp.)
- mosquito fern (Azolla caroliniana)1

#### Shoreline Grasses:
- paragrass (Urochloa mutica)

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

### Vascular Aquatic Plants Partially Controlled By SonarOne:

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

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

#### Shoreline Grasses:
- barnyardgrass (Echinochloa crusgalli)
- giant cutgrass (Zizania milacea)
- reed canarygrass (Phalaris arundinacea)
- southern watergrass (Hydrochloa carolinensis)
- torpedograss (Panicum repens)

### Vascular Aquatic Plants Not Controlled By SonarOne:

#### Emerged Plants:
- American frogbit (Limnobium spongii)
- arrowhead ( Sagittaria spp.)
- bacopa (Bacopa spp.)
- big floatingheart, banana lily (Nymphaoides aquatica)
- bulrush (Scirpus spp.)
- pickerelweed, lanceleaf (Pontederia spp.)
- rush (Juncus spp.)
- water pennywort (Hydrocotyle spp.)

#### Floating Plants:
- floating waterhyacinth (Eichhornia crassipes)
- waterlillettuce (Pistia stratiotes)

#### Shoreline Grasses:
- maidencane (Panicum hemitomon)

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

### APPLICATION DIRECTIONS

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

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

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

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

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

Application Sites Greater Than ¼ Mile from a Functioning Potable Water Intake
For single applications, apply SonarOne at application rates from 45 - 150 ppb. Split or multiple applications may be made; however, the sum of all applications cannot exceed 150 ppb per annual growth cycle. Split applications should be conducted to maintain a sufficient concentration in the target area for a period of 45 days or longer. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

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

Application Rate Calculation — Ponds, Lakes and Reservoirs
The amount of SonarOne to be applied to provide the desired ppb concentration of active ingredient equivalents in treated water may be calculated as follows:

\[ \text{Pounds of SonarOne required per treated acre} = \frac{\text{Average water depth of treatment site} \times \text{Desired ppb concentration of active ingredient equivalents}}{0.054} \]
For example, the pounds per acre of SonarOne required to provide a concentration of 25 ppb of active ingredient equivalents in water with an average depth of 5 feet is calculated as follows:

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

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

Application to Drainage Canals, Irrigation Canals and Rivers

**Static Canals**

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

**Moving Water Canals and Rivers**

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

Application Rate Calculation — Drainage Canals, Irrigation Canals and Rivers

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

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