

81927-49

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

JUN 17 2014

Michael Kellogg  
Pyxis Regulatory Consulting, Inc.  
for Alligare, LLC  
4110 136<sup>th</sup> St. NW  
Gig Harbor, WA 98332

Dear Mr. Kellogg:

SUBJECT: Label Amendment – Voluntary Deleting Weed Control on  
Drainage Ditches in California and Arizona  
EPA Registration No. 81927-49  
Your Submission Dated October 29, 2013

The label amendment referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended is acceptable. A stamped copy is enclosed for your records. Please submit one (1) copy of your final printed labeling before you release the product for shipment.

Sincerely yours,

A handwritten signature in black ink that reads "Kathryn V. Montague".

Kathryn V. Montague  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505P)

Enclosure

# Alligare Prodiamine 4L

## Herbicide

A selective preemergence herbicide for control of grass and broadleaf weeds in established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries; container, field-grown, and landscape ornamentals; conifer and hardwood seedling nurseries; established perennial and wildflower plantings; non-crop areas including managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways, and equipment yards); non-crop facilities including substations, tank farms, pumping stations, parking and storage areas; non-grazed fence rows; and Christmas tree farms and drainage ditches (California and Arizona only).

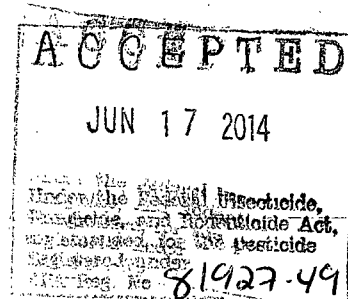
<b>ACTIVE INGREDIENT:</b>	<b>% BY WT</b>
Prodiamine* .....	40.7%
<b>OTHER INGREDIENTS:</b> .....	<b>59.3%</b>
<b>TOTAL:</b>	<b>100.0%</b>

Contains 4 pounds prodiamine per gallon

\*CAS No. 29091-21-2

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**Manufactured for:**  
Alligare, LLC  
13 N. 8<sup>th</sup> Street  
Opelika, AL 36801



EPA Reg. No. 81927-49

EPA Est. No. XXXXXXXXXX

**NET CONTENTS: \_\_\_\_\_ GAL(S)**

<b>FIRST AID</b>	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious or convulsing person.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time or your poison control center at 1-800-222-1222.</p>	

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

May be harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**WPS USES**

**Applicators, mixers, loaders, and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) - agricultural plant uses are covered - must wear:**

- Long-sleeved shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS STATEMENTS**

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

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided with all of the PPE specified above for applicators and other handlers, and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- After handling this product immediately remove PPE, wash yourself thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water.

**DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170.

This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for

training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves such as butyl rubber  $\geq$  14 mils, or natural rubber  $\geq$  14 mils, or neoprene rubber  $\geq$  14 mils or, nitrile rubber  $\geq$  14 mils
- Shoes plus socks

### NON-AGRICULTURAL USE REQUIREMENTS

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

Applicators and handlers should wear:

- Long-sleeved shirt
- Long pants
- Chemical-resistant gloves
- Shoes with socks
- Protective eyewear

Thoroughly wash face and hands with soap and water after exposure and before eating or smoking. Launder exposed clothing before reuse. Do not allow reentry to treated areas until dust has settled and the turf grass or soil is dry.

### PRODUCT INFORMATION

#### Formulation and Mode of Action

Alligare Prodiamine 4L is a liquid herbicide containing the active ingredient, prodiamine, a member of the dinitroaniline family of herbicides. Each gallon contains 4 pounds active ingredient. Alligare Prodiamine 4L is used for pre-emergent control of grasses and broadleaf weeds. The active ingredient inhibits mitotic processes in plants and controls susceptible weeds by preventing growth and development of newly germinated weeds. Weed control is most effective when Alligare Prodiamine 4L is activated by at least 0.5 inches of rainfall or irrigation or shallow incorporation (1 to 2 inches for non-turf applications) before weed seeds germinate and within 14 days following application.

#### Uses and Application

Apply Alligare Prodiamine 4L for selective preemergence control of many grass and broadleaf weeds in the following areas: 1) established turfgrasses (excluding golf course putting greens); 2) lawns, and sod nurseries; 3) container, field-grown, and landscape ornamentals; 4) conifer and hardwood seedling nurseries; 5) established perennial and wildflower plantings; 6) non-crop areas including managed rights-of-way for transportation systems and utilities (such as roadways, roadsides, railways, and equipment yards); 7) non-crop facilities including substations, tank farms, pumping stations, parking and storage areas; 8) non-grazed fence rows; and 9) Christmas tree farms; and 10) drainage ditches in only California and Arizona.

Apply Alligare Prodiamine 4L in a minimum of 20 gallons/acre (0.5 gallons /1,000 sq ft) of carrier (water and or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A

broadcast boom or handheld wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

**New Plantings, Replanting and Rotational Plantings**

Rotate nursery, landscape, or non-cropped land areas treated with Alligare Prodiamine 4L only to ornamental species listed on this label for 1 (one) year following application unless the following test has shown species safety:

- Before planting a species not listed on this label, sow several test strips of an indicator plant such as wheat, sorghum or corn into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control, but do not apply more than 48 fl oz/acre per year.

**MIXING ALLIGARE PRODIAMINE 4L**

**When Used Alone**

Mix Alligare Prodiamine 4L thoroughly in the spray tank to ensure uniform application. Steps to follow when mixing Alligare Prodiamine 4L include:

1. Filling the spray tank 1/4 full with clean water only;
2. Starting the agitation system and checking to ensure it is working properly;
3. Maintaining vigorous agitation in the spray tank before and during the application to ensure a well-mixed spray suspension;
4. Adding a spray colorant with Alligare Prodiamine 4L to mark treated areas and improve application accuracy by minimizing swath skips and overlaps; and
5. After use, thoroughly clean the sprayer by flushing the system with water containing a detergent.

Refer to the **PESTICIDE DISPOSAL** section of this label for waste disposal. Do not allow spray suspension to dry in the tank. If Alligare Prodiamine 4L was mixed with fertilizer instead of water in the spray tank, the fertilizer aids in re-suspension of Alligare Prodiamine 4L if agitation is disrupted. However, use the entire tank before stopping agitation.

**When Used in Tank Mixtures**

Alligare Prodiamine 4L can be applied in tank-mixtures with certain other EPA-registered herbicides to provide a broader spectrum of weed control and/or to control emerged weeds. Refer to the specific directions for use for tank-mix partners, and refer to the label(s) of the individual tank-mix partner(s) for use rate, application timing, weeds controlled, and specific precautions and/or restrictions. Tank mixes are permitted only in states where the tank-mix partner(s) are registered for the application site and the turf and ornamental species listed. When using Alligare Prodiamine 4L in a tank mixture with other pesticides, follow restrictions and precautions on the labels of the products used.

When mixing Alligare Prodiamine 4L with other components (carrier and partner pesticide products), allow products to completely dissolve between steps and be sure to maintain agitation throughout mixing and application. When products are to be tank-mixed with Alligare Prodiamine 4L, add them to the spray tank in the following order:

1. Products packaged in water-soluble bags. Agitate the tank mixture. Allow the water-soluble bags to completely dissolve and the products to disperse before adding any other tank-mix partners.
2. Water-dispersible granules (WDG or WG formulations) and wettable powders (WP formulations). Add wettable powders to the tank as agitation continues. Allow the product to disperse completely before other products are added.
3. Spray adjuvants and spray markers. Read the adjuvant's label first and use only those adjuvants approved for application to turf and ornamentals.
4. Alligare Prodiamine 4L, other flowable liquids (FL) or suspension concentrates (SC) must be added next.

5. Add emulsifiable concentrates (EC) last.

**Compatibility Testing**

Before mixing Alligare Prodiamine 4L with other pesticides in the spray tank, test for compatibility by mixing all components (carrier and pesticide products) in an appropriate container in proportionate quantities. For example, 1 quart would be 1/100 the volume of a 25 gallons/acre spray rate. At 1.0 pound/acre, the Alligare Prodiamine 4L rate would be approximately 1 teaspoon to a quart of water (see Table 1).

**Table 1. Amount of Component to Add to One Quart of Spray Carrier (Using Carrier Volume of 25 gallons/acre)**

Component Formulations	Rate Per		Level Teaspoons
	Acre	1,000 sq ft	
Alligare Prodiamine 4L	21.0 fl oz	0.5 fl oz	1.0
Dry Tank-Mix Partners	1.0 lb	0.4 oz	1.5
Liquid Tank-Mix Partners	16 fl oz	0.4 fl oz	0.5

If components do not ball-up or form flakes, sludge, gels, oily films, or layers, then the mixture is compatible. Let the mixture stand for 15 minutes. Incompatibility will usually occur within 5 minutes after mixing. If components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If the components are still not compatible, do not tank mix.

**PRODUCT USE RESTRICTIONS**

1. Do not graze or feed livestock forage cut from areas treated with Alligare Prodiamine 4L.
2. Do not apply Alligare Prodiamine 4L to plants that will be consumed for food use.
3. Follow all applicable directions, restrictions, and precautions on the labels of EPA-registered tank-mix partners.
4. Do not blend Alligare Prodiamine 4L onto dry fertilizer or any other granular material.
5. **Chemigation:** Do not apply this product through any type of irrigation system unless instructed otherwise in this label.
6. Do not apply aerially.
7. Do not apply to golf course putting greens
8. Follow all use directions in this label. In all cases, do not exceed a dosage of 1.5 pounds active/acre (48 fl oz/acre) per year on any use site.

**WEEDS CONTROLLED IN ESTABLISHED TURF AND ORNAMENTALS**

When used as directed in this label for established turf and container, field grown and landscape ornamental plantings including Christmas tree farms, Alligare Prodiamine 4L will control the grass and broadleaf weeds listed in Table 2.

**Table 2. Weeds Controlled by Alligare Prodiamine 4L in Established Turf, Container, Field-grown and Landscape Ornamental Plantings Including Christmas Tree Farms**

<u>Common Name</u>	<u>Scientific Name</u>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Betony, Florida*	<i>Stachys flordans</i>
Bluegrass, Annual <sup>1</sup>	<i>Poa annua</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed, Common <sup>2</sup>	<i>Stellaria media</i>
Chickweed, Mouseear (from seed)	<i>Cerastium vulgatum</i>
Crabgrass, Large <sup>3</sup>	<i>Digitaria sanguinalis</i>
Crabgrass, Smooth <sup>3</sup>	<i>Digitaria ischaemum</i>

**Common Name**

**Scientific Name**

Crowfootgrass	<i>Dactyloctenium aegypticum</i>
Cupgrass, Woolly	<i>Eriochloa villosa</i>
Foxtails, Annual	<i>Setaria</i> spp.
Goosegrass <sup>5</sup>	<i>Eleusine indica</i>
Henbit <sup>2</sup>	<i>Lamium amplexicaule</i>
Itchgrass	<i>Rottboellia cochinchinensis</i>
Jew, Wandering <sup>4,*</sup>	<i>Zebrian pendual</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Knotweed <sup>2</sup>	<i>Polygonum</i> spp.
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lovegrass	<i>Eragrostis</i> spp.
Oxalis, Buttercup*	<i>Oxalis pes-caprae</i>
Panicum, Texas	<i>Panicum texanum</i>
Panicum, Fall	<i>Panicum dichotomiflorum</i>
Panicum, Browntop	<i>Panicum fasciculatum</i>
Pigweed	<i>Amaranthus</i> spp.
Purslane, Common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Rescuegrass <sup>4</sup>	<i>Bromus catharticus</i>
Shepherdspurse <sup>2</sup>	<i>Capsella bursa-pastoris</i>
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Speedwell, Persian	<i>Veronica persica</i>
Sprangletop	<i>Leptochloa</i> spp.
Spurge, Prostrate	<i>Chamaesyce humistrata</i>
Vetch, Common*	<i>Vicia sativa</i>
Witchgrass	<i>Panicum capillare</i>
Woodsorrel, Yellow (from seed)	<i>Oxalis stricta</i>

<sup>1</sup> In those areas where *Poa annua* is a winter annual, apply Alligare Prodiamine 4L in August or September to established, non-overseeded turf before *Poa annua* seeds germinate (see Table 4 for maximum use rates). These timings are approximate. Consult State Extension Service for more specific timing for your area. Also see the section of this label **Poa annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV and TX Only)**.

<sup>2</sup> To control this weed, apply Alligare Prodiamine 4L in late summer, fall, or winter before weeds germinate.

<sup>3</sup> **Fall Applications for Spring Crabgrass Control in Cool-Season Grasses:** In those areas where the ground freezes in the winter, Alligare Prodiamine 4L can be applied in the fall at rates of 21-24 fl oz/acre after soil temperatures fall below 50° F, but before the ground freezes. This application will control crabgrass the following spring.

<sup>4</sup> Suppression only.

<sup>5</sup> In many areas a single application of 21-48 fl oz/acre of Alligare Prodiamine 4L will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, weed control will be most effective by making an initial application of 21-26 fl oz/acre followed by a second application 60-90 days later. **Note: Do not exceed** the maximum rate for the turf species listed in **Table 4 (Maximum Application Rate of Alligare Prodiamine 4L per Calendar Year by Turf Species)**.

\*Not for Use in California.

8/26

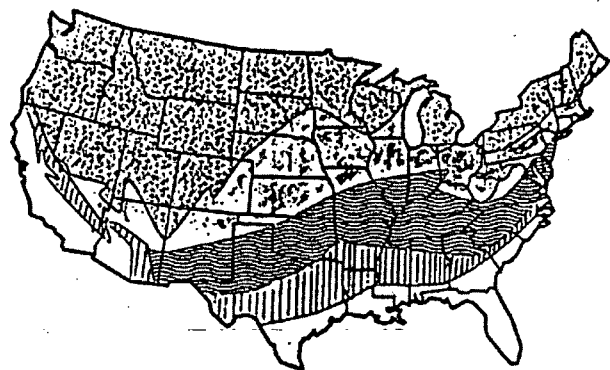
## SPECIFIC USE DIRECTIONS - ESTABLISHED TURF

### Product Information






Alligare Prodiamine 4L is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including golf courses (excluding putting greens), lawns and sod nurseries. The maximum amount of Alligare Prodiamine 4L that can be applied per year is given for each turfgrass species in **Table 4** of this label.

For optimum weed control, activate Alligare Prodiamine 4L with at least 0.5 inches of rainfall or irrigation before weed seeds germinate and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

### Crabgrass Seed Germination Dates



#### Approximate Date

-  After May 30
-  After May 10
-  After April 20
-  After March 20
-  January 1 to March 20

### Timing and Method of Application to Turfgrass

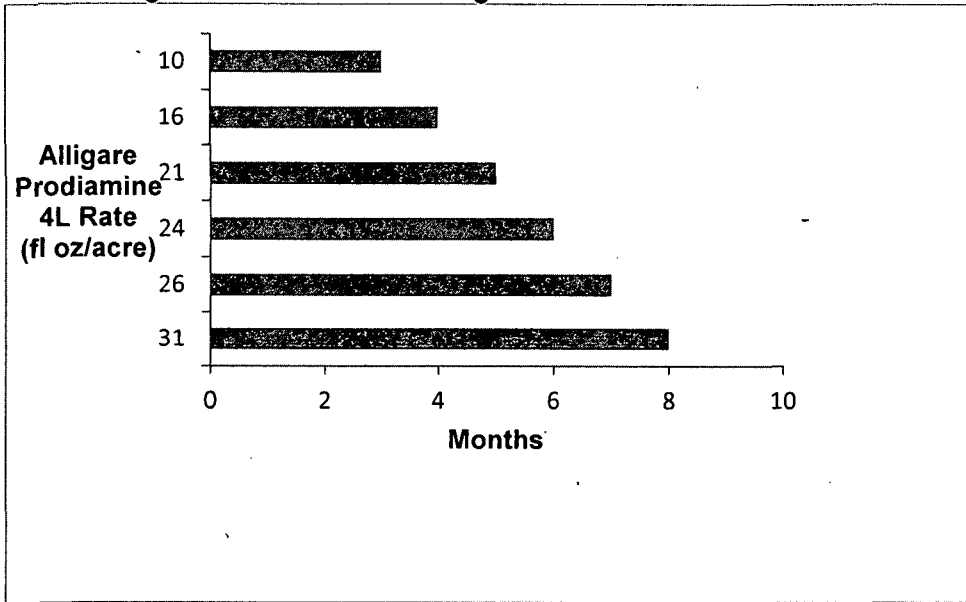
Apply Alligare Prodiamine 4L as a single application or in sequential applications to control weeds germinating throughout the year. All applications must be made before target weeds germinate because Alligare Prodiamine 4L will not control weeds that have already emerged. Apply Alligare Prodiamine 4L in a minimum of 20 gallons/acre (0.5 gallons/1,000 sq ft) of carrier (water and/or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A broadcast boom or handheld wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

The amount of Alligare Prodiamine 4L to apply depends upon the length of residual weed control desired (the higher the application rate, the longer the control), the turf species, and the maximum amount which can be applied to the turf species per calendar year. Specific information is provided in **Table 3** and **Table 4**.



9/26

**Table 3. Length of Crabgrass Control\* With Alligare Prodiamine 4L**



\*Length of control varies by region. This table is an average.

**Dosage**

Alligare Prodiamine 4L can be safely applied to the turfgrass species listed in **Table 4**. Do not exceed the highest rate listed for each species in a calendar year as injury can occur.

**Table 4. Maximum Application Rate of Alligare Prodiamine 4L per Calendar Year by Turf Species**

Turf Species	Fl oz Product/Acre <sup>1</sup>	Fl oz Product/1,000 sq ft <sup>1</sup>
Bermudagrass <sup>2</sup> Bahia Centipedegrass Kikuyugrass Seashore Paspalum St. Augustinegrass <sup>3</sup> Tall Fescue (including turf-type) Zoysiagrass	21-48	0.5-1.1
Buffalograss Kentucky Bluegrass Perennial Ryegrass	10-30	0.23-0.70
Fine Fescue	10-24	0.23-0.55
Creeping Bentgrass (0.5 inch or more in height <sup>4</sup> )	10-21	0.23-0.48

<sup>1</sup> Alligare Prodiamine 4L can be applied more than once a year as long as the total amount applied is not greater than the maximum application rate for each turf species. All applications must be made before weed seeds germinate.

<sup>2</sup> Alligare Prodiamine 4L can be used on newly sprigged or plugged bermudagrass at rates not to exceed 17 fl oz/acre (0.39 fl oz/1,000 sq ft). Newly sprigged or plugged bermudagrass stolon rooting can be temporarily inhibited.

<sup>3</sup> Use an initial rate of 16-32 fl oz/acre per application.

<sup>4</sup> To avoid grass injury, do not apply Alligare Prodiamine 4L to creeping bentgrass mowed at less than 0.5 inch in height.

**When to Apply Alligare Prodiamine 4L after Overseeding Turf**

Injury to desirable seedlings is likely if Alligare Prodiamine 4L is applied before the secondary roots of seedlings are in the second inch of soil, not thatch plus soil. To reduce the potential to injure overseeded turf, wait 60 days after seeding or until after the second mowing, whichever is longer, before applying Alligare Prodiamine 4L.

**When to Overseed After Application - All States**

Alligare Prodiamine 4L will inhibit the development of turfgrass species overseeded too soon after application. Follow rates and intervals in **Table 5** for best overseeding/reseeding results.

**Table 5. Waiting Interval before Overseeding Perennial Ryegrass Following Application of Alligare Prodiamine 4L**

Amount of Alligare Prodiamine 4L Fl Oz Product/Acre	Interval (Months Before Overseeding)*		
	North	Transition	South
16	4	4	4
21	5	4	4
24	6	5	5
26	---	6	6
31	---	7	7
36	---	---	9
42	---	---	10
48	---	---	12

\* In AZ, CA, NV, and TX the overseeding interval can be shorter in established bermudagrass that has been overseeded with perennial ryegrass. See the next section for additional information.

**Poa Annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)** Use on golf courses (excluding golf course putting greens), lawns, and sod nurseries when overseeding with perennial rye grass. (Minimum seeding rate of 350 lbs/acre).

**Table 6. Amount of Alligare Prodiamine 4L to Apply to Bermudagrass Overseeded with Perennial Ryegrass**

Amount to Apply	When to Apply	Expected Control	Use Precautions
12-21 fl oz/acre*	6-8 weeks before ryegrass overseeding  <b>Second application:</b> 4-8 weeks after overseeding or when perennial ryegrass roots are in the second inch of soil	1 application for 70% or greater control of <i>Poa annua</i>  Second application can enhance control	<ul style="list-style-type: none"> <li>Some seedling mortality and temporary reduction in root growth of new seedlings can occur.</li> <li>To reduce the potential for seedling mortality, maintain a moist seedbed with light, frequent irrigation.</li> <li>Make no more than 2 applications per year for this use, and do not exceed a total of 27 fl oz/acre (0.85 pounds active/acre) per year.</li> <li>Do not make a second application if any injury to the ryegrass is observed after the first application.</li> <li>Do not make a second application unless the product was first applied</li> </ul>

			before overseeding.
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\* The amount of Alligare Prodiamine 4L to apply depends upon: the length of residual control desired (the higher the application rate, the longer the control). **Note:** The higher the rate, the greater the potential for seedling mortality.

**Use Precautions - Turfgrass: Golf Courses, Lawns, and Sod Nurseries**

1. Do not apply Alligare Prodiamine 4L to areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (*Poa annua*) are desirable species.
2. Do not cut (harvest) treated sod before 90 days after application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
3. To avoid turfgrass injury, do not apply Alligare Prodiamine 4L to turf stressed by conditions such as drought, low fertility, or pest damage.
4. Disturbing the herbicide barrier with cultural practices such as disking can result in reduced weed control.
5. **Do not apply Alligare Prodiamine 4L to golf course putting greens.**
6. If the depth of the creeping bentgrass root system becomes shallow and root tips contact prodiamine-treated soil, new root formation can be inhibited. Mowing height can affect the depth of a plants root system. To avoid this do not apply Alligare Prodiamine 4L to creeping bentgrass less than 0.5 inches in height.

**CONTAINER, FIELD-GROWN AND LANDSCAPE ORNAMENTAL PLANTINGS  
INCLUDING CHRISTMAS TREE FARMS**

**Product Information**

Apply Alligare Prodiamine 4L to soil surfaces for preemergence control of many grass and broadleaf weeds around ornamental shrubs and trees, established perennial vegetation and wildflower plantings and Christmas tree farms. (See **Table 2** for a list of weeds controlled).

**Timing and Method of Application**

Alligare Prodiamine 4L is a preemergence herbicide only and will not control emerged grass or broadleaf weeds. It works best when applied to soil that is free of clods, weeds and debris and is activated by at least 0.5 inches of irrigation or rainfall or shallow incorporation to a depth of 1 to 2 inches. Weed control is improved if Alligare Prodiamine 4L is activated in the soil before weed seeds germinate and within 14 days after application. Apply Alligare Prodiamine 4L to newly-transplanted and established ornamentals as a broadcast or over-the-top spray.

**Crop Tolerance**

Direct application of Alligare Prodiamine 4L to rapidly growing tissue or buds can injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of Alligare Prodiamine 4L can injure new growth of desirable plants, however, these effects are temporary. To reduce the possibility of injury at this time, wait to apply Alligare Prodiamine 4L over the top of newly emerged vegetation until it has hardened off, unless your experience indicates that the ornamental plant will not be injured by the over-the-top application. After application, immediately apply overhead irrigation to the foliage to wash Alligare Prodiamine 4L from plant surfaces onto soil (watering the foliage of plants before application can improve the washing process).

**Table 7. Amount of Alligare Prodiamine 4L to Apply to Container, Field Grown and Landscape Ornamental Plantings and Christmas Trees Farms**

Amount to Apply (Broadcast)*	When to Apply	Comments/Instructions
21-48 fl oz/acre  or  0.5-1.1 fl oz/1,000 sq ft	In fall or spring before weeds germinate or after weeds are removed.	<ul style="list-style-type: none"> <li>• Use the higher rate for longer control.</li> <li>• Alligare Prodiamine 4L can be applied more than once per year as long as the total amount of product applied does not exceed 48 fl oz/acre (1.5 pounds active/acre) per year.</li> </ul>

\*NOTE: For band application, calculate amount per acre:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{broadcast rate} = \text{amount to apply/acre of field}$$

**Table 8. Equivalent Measurements for Alligare Prodiamine 4L**

Fl oz/Acre	Fl oz/1,000 sq ft	Approximate Equivalent -- Tablespoons/1,000 sq ft
21	0.5	1.0
31	0.7	1.5
42	1.0	2.0
48	1.1	2.25

**Table 9. Application Sites and Instructions for Alligare Prodiamine 4L Use on Container, Field Grown and Landscape Ornamental Plantings and Christmas Tree Farms**

Site	Application Instructions
Newly-Transplanted Container or Field Nursery Stock	<ul style="list-style-type: none"> <li>• Delay application until soil has settled around transplants.</li> <li>• Water transplants thoroughly before application.</li> <li>• Apply after cuttings form roots and are established.</li> <li>• To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken.</li> </ul>
Established Container, Field Nursery Stock, or Landscape Plants	<ul style="list-style-type: none"> <li>• Apply at any time as a broadcast, over-the-top, or directed spray.</li> </ul>
Landscape (or Ornamental) Plantings	<ul style="list-style-type: none"> <li>• Apply as a broadcast, over-the-top, or as a directed spray.</li> <li>• Delay applications to newly transplanted ornamentals until soil has settled around transplants.</li> </ul>
Bare Ground Application for Container Placement	<ul style="list-style-type: none"> <li>• Apply to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed.</li> <li>• After Alligare Prodiamine 4L is applied, perform shallow cultivation or hand weeding only, to avoid disturbing the herbicide barrier.</li> </ul>
In Shadehouses and Uncovered Polyhouses	<ul style="list-style-type: none"> <li>• After Alligare Prodiamine 4L is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive 2 irrigations totaling at least 0.5 inches of water before covering.</li> </ul>

Site	Application Instructions
Ornamental Bulbs and Perennial Wildflower Plantings	<ul style="list-style-type: none"> <li>Alligare Prodiamine 4L can be applied to bulbs or perennial wildflower species listed in <b>Table 11. Tolerant Ornamental Species</b> section. Apply before or after bulbs emerge but before bulbs bloom and weeds emerge.</li> <li>In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.</li> </ul>

**Tank Mixtures for Use on Container, Field Grown and Landscape Ornamentals and Christmas Tree Farms**

Tank mix Alligare Prodiamine 4L with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Alligare Prodiamine 4L are for use only in states where the tank-mix partner(s), application site and intended use pattern are registered.

Follow the label directions of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank-mix partner in the spray tank, test for compatibility as described in the **Compatibility Testing** section of this label.

**Table 10. Tank-Mix Partners for Alligare Prodiamine 4L Use on Container, Field Grown and Landscape Ornamental Plantings and Christmas Tree Farms**

Product	Precautions/Instructions
Galigan® 2E, (use on conifers only)	<ul style="list-style-type: none"> <li>Mix with Alligare Prodiamine 4L for postemergence control of certain broadleaf weeds including malva and filaree.</li> </ul>
Quali-Pro Isoxaben 75 WG®, Princep®, MANA Parallel	<ul style="list-style-type: none"> <li>See product labels for weed spectrum and tolerant ornamentals.</li> </ul>
Glyphogan® (or other glyphosate-based products) and Finale®	<ul style="list-style-type: none"> <li>These nonselective tank mix herbicides control many emerged annual broadleaves and grasses.</li> <li>Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation could be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants.</li> <li>Following instructions on the tank-mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.</li> </ul>

**Tolerant Ornamental Species**

Alligare Prodiamine 4L will not harm trees, shrubs, vines and flowers. The species listed below in **Table 11** are tolerant to Alligare Prodiamine 4L. Alligare Prodiamine 4L can be used for application to these species. Alligare Prodiamine 4L can be applied over the top of the listed species. The species that are not tolerant to Alligare Prodiamine 4L when grown in containers are indicated.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Alligare Prodiamine 4L.

**Table 11. Tolerant Ornamental Species**

<u>Scientific name</u>	<u>Common name</u>
<i>Abelia grandiflora</i> <sup>1</sup>	Abelia: Sherwood
<i>Abies</i> spp.	Fir species** (Balsam, Fraser, Noble, etc.)
<i>Acer palmatum</i>	Japanese Maple
<i>Acer platanoides</i>	Norway Maple
<i>Achillea</i> spp. <sup>1</sup>	Yarrow: King Edward
<i>Actinidia chinensis</i> *	Kiwi*
<i>Agapanthus africanus</i>	Lily-of-the-Nile (African Lily)
<i>Agapanthus orientalis</i> <sup>1</sup>	
<i>Akebia quintata</i> <sup>1</sup>	Five-Leaf or Chocolate Vine
<i>Allium cernuum</i> <sup>1</sup>	Lady's Leek, Nodding Onion
<i>Anemone hybrida</i> <sup>1</sup>	Japanese Anemone
<i>Aquilegia</i> spp. <sup>1</sup>	Columbine
<i>Arctostaphylos densiflora</i>	Vine Hill Manzanita
<i>Arctotheca calendula</i>	Cape Weed
<i>Aucuba japonica</i>	Japanese Aucuba
<i>Artemisia</i> spp. <sup>1</sup>	Wormwood; Silver Mound, Castle
<i>Aster</i> spp. <sup>1</sup>	Aster: Bonny Blue, Purple Dome
<i>Athyrium filix-femina</i> <sup>1</sup>	Lady Fern
<i>Begonia</i> spp. <sup>1</sup>	Fibrous Begonia: Hardy Grandis
<i>Berberis gladwynensis</i>	Barberry
<i>Berberis julianae</i>	Wintergreen Barberry
<i>Berberis mentorensis</i>	Mentor Barberry
<i>Berberis thunbergii</i>	Japanese Barberry
<i>Berberis verruculosa</i>	Warty Barberry
<i>Bergenia cordifolia</i> <sup>1</sup>	
<i>Boltonia asteroides</i> <sup>1</sup>	Snowbank
<i>Bougainvillea</i> spp. <sup>1</sup>	Bougainvillea
<i>Buddleia davidii</i> <sup>1</sup>	Butterfly-Bush (Dwarf Blue); Royal Red
<i>Buxus microphylla</i>	Japanese Boxwood
<i>Callistemon citrinus</i> <sup>1</sup>	Crimson Bottlebrush
<i>Callistemon viminalis</i>	Weeping Bottlebrush
<i>Calluna vulgaris</i>	Scotch Heather
<i>Campanula carpatica</i> <sup>1</sup>	Tussock Bellflower; (White Clips)
<i>Campis X tagliabuana</i> <sup>1</sup>	Trumpet Creeper, Trumpet Flower; Madame Galen
<i>Carpobrotus edulis</i>	Hottentot Fig (Ice Plant)
<i>Cassia artemisioides</i>	Feathery Cassia
<i>Ceanothus rigidus</i>	Wild Lilac
<i>Ceratostigma plumbaginoides</i> <sup>1</sup>	
<i>Chamaecyparis pisifera</i>	False Cypress
<i>Chrysanthemum nipponicum</i> <sup>1</sup>	
<i>Cleyera japonica</i>	Cleyera
<i>Citrus</i> spp.*	Citrus species*
<i>Coreopsis</i> spp. <sup>1</sup>	Coreopsis (Calliopsis): Early Sunrise, Moonbeam
<i>Cornus</i> spp.	Dogwood (Flowering & American)
<i>Cornus stolonifera</i>	American Dogwood
<i>Cortaderia selloana</i>	Pampas Grass

**Scientific name**

*Cotoneaster apiculatus*  
*Cotoneaster buxifolius*  
*Cotoneaster dammeri*  
*Cotoneaster microphyllus*  
*Crataegus* spp.  
*Cupressus sempervirens*  
*Crococsmia* spp.<sup>1</sup>  
*Delosperma* spp.  
*Delphinium* spp.<sup>1</sup>  
*Dianthus deltoidea*<sup>1</sup>  
*Dianthus gratianopolitanus*<sup>1</sup>  
*Dodonea viscosa*  
*Echinacea purpurea*<sup>1</sup>  
*Elaeagnus pungens*  
*Euonymus fortunei*  
*Euonymus japonica*  
  
*Euonymus kiautschovicka*  
*Fatsia japonica*  
*Forsythia intermedia*  
*Forsythia suspensa*<sup>1</sup>  
*Forsythia viridissima*  
*Gaillardia* spp.<sup>1</sup>  
*Gardenia jasminoides*  
*Gaura* spp.<sup>1</sup>  
*Gentiana dahurica*<sup>1</sup>  
*Geranium cinereum*<sup>1</sup>  
*Gladiolus* spp.\*\*  
*Gypsophila repens*<sup>1</sup>  
*Hedera helix*  
*Helianthemum* spp.<sup>1</sup>  
*Hemerocallis* spp.<sup>1</sup>  
  
*Heucherella* spp.<sup>1</sup>  
*Hibiscus* spp.\*\*  
*Hibiscus Rosa-sinensis*\*\*  
*Hosta plantaginea*<sup>1</sup>  
*Hosta sieboldiana*<sup>1</sup>  
*Houttuynia cordata* var. *variegata*<sup>1</sup>  
*Hydrangea macrophylla*<sup>1</sup>  
*Ilex cornuta*\*\*  
*Ilex crenata*  
*Ilex opaca*  
*Ilex pernyi*  
*Ilex vomitoria*  
*Iris* spp.\*\*  
*Jasminium nudiflorum*  
*Juglans* spp.\*  
*Juniperus chinensis*  
*Juniperus conferta*

**Common name**

Cranberry Cotoneaster  
Cotoneaster  
Bearberry Cotoneaster  
Rockspray Cotoneaster  
Hawthorne  
Italian Cypress  
Lucifer  
Ice Plant  
Larkspur; Blue Elf  
Dianthus, Maiden Pinks 'Zing'  
Cheddar Pink  
Hop Bush  
Coneflower, Purple; Magnus  
Silverberry  
Wintercreeper  
Japanese Spindle Tree (Evergreen Euonymus)  
Spreading Euonymus  
Japanese Aralia  
Border Forsythia  
Weeping Forsythia  
Greenstem Forsythia  
Gaillardia, Blanket Flower: 'Goblin'  
Gardenia, Cape-Jasmine  
Guara  
Gentian  
Cranesbill  
Gladiolus species\*\*  
Baby's Breath  
English Ivy  
Sunrose  
Daylily: Aztec Gold, Stella De Oro, Tender Love  
Coral Bell; Bridget Bloom  
Rose of Sharon\*\*  
Chinese Hibiscus\*\*  
Hosta, Plantain Lily (Fragrant)  
Hosta, 'Searsucker'  
  
Bigleaf Hydrangea  
Chinese Holly\*\*  
Japanese Holly  
American Holly  
Holly  
Yaupon Holly  
Iris species\*\*  
Winter Jasmine  
Walnut\*  
Chinese Juniper  
Shore Juniper

**Scientific name**

*Juniperus davuricae*<sup>1</sup>  
*Juniperus horizontalis*  
*Justicia brandegeana*  
*Lagerstromia indica*  
*Lagerstromia indica and hybrids*<sup>1</sup>  
*Lantana montevidensis*<sup>1</sup>  
*Lavender* spp.<sup>1</sup>  
*Leontopodium alpinum*<sup>1</sup>  
*Ligustrum amurense*  
*Ligustrum japonicum*  
*Ligustrum lucidum*  
*Ligustrum sinense*<sup>1</sup>  
*Lilium* spp.<sup>1</sup>  
*Liriope muscari*  
*Liriope spicata*<sup>1</sup>  
*Lobelia cardinalis*<sup>1</sup>  
*Lonicera japonica*  
*Lonicera tatarica*  
*Loropetalum chinense*<sup>1</sup>  
*Lythrum* spp.<sup>1</sup>  
*Magnolia* spp.\*\*  
*Maleophora luteola*  
*Malus* spp.\*  
*Miscanthus sinensis*\*\*<sup>1</sup>  
*Nandina domestica*  
*Narcissus* spp.\*\*  
*Nerium* spp.  
*Oenothera missouriensis*<sup>1</sup>  
*Olea europaea*\*  
*Ophiopogon japonicus*\*\*  
*Osmanthus heterophyllus*<sup>1</sup>  
*Osteospermum fruticosum*  
*Oxydendrum arboreum*  
*Paeonia suffruticosa*<sup>1</sup>  
*Pennisetum setaceum*\*\*<sup>1</sup>  
*Perovskia atriplicifolia*<sup>1</sup>  
*Persea americana*\*  
*Photinia fraseri*  
*Physostegia virginiana*<sup>1</sup>  
*Picea* spp.\*\*  
  
*Pieris japonica*  
  
*Pinus brutia*  
*Pinus canariensis*  
*Pinus elliotii*  
*Pinus halepensis*  
*Pinus nigra*  
*Pinus palustris*  
*Pinus radiata*

**Common name**

Parsoni  
Creeping Juniper  
Shrimp Plant  
Crape Myrtle  
Crape Myrtle  
Weeping Lantana  
Lavender; Munstead  
Edelweiss  
Amur Privet  
Japanese Privet  
Glossy Privet (Wax-Leaf)  
Chinese Privet  
Lily  
Liriope; Big Blue Lillyturf  
Liriope, creeping  
Cardinal Flower, Indian Pink  
Japanese Honeysuckle  
Tatarian Honeysuckle  
Loropetalum; Burgundy  
Loosestrife; Modern Pink  
Magnolia species\*\*  
Ice Plant  
Crabapple\*  
Yaku Jima\*\*, Silberfeder\*\*  
Heavenly Bamboo  
Narcissus species\*\*  
Oleander  
Evening Primrose  
Olive\*  
Mondo Grass\*\*  
Osmanthus (False Holly): Gulf Tide  
Trailing African Daisy  
Sourwood  
Tree Peony  
Fountain Grass (Dwarf)\*\*  
  
Avocado\*  
Frasier's Photinia (Redtip)  
Dragonhead, False; Vivid  
Spruce species\*\* (Colorado Blue, Norway, etc.)  
Japanese Andromeda; Lily-of-the-Valley Shrub  
Calabrian Pine  
Canary Island Pine  
Slash Pine  
Aleppo Pine  
Austrian Black Pine  
Longleaf Pine  
Monterey Pine



**Scientific name**

*Pinus strobus*  
*Pinus sylvestris*  
*Pinus taeda*  
*Pinus thunbergiana*  
*Pinus virginiana*  
*Pistacia* spp.\*  
*Pittosporum rhombifolium*  
*Pittosporum tobira*  
*Podocarpus macrophyllus*  
*Prunus laurocerasus*  
*Prunus* spp.\*  
  
*Pseudotsuga menziesii*\*\*  
*Pyracantha coccinea*  
*Pyracantha fortuneana*  
*Pyracantha koidzumii*  
*Pyrus* spp.  
*Quercus rubra*  
*Quercus shumardii*<sup>1</sup>  
*Raphiolepis indica*  
*Raphiolepis umbellata*<sup>1</sup>  
*Rhododendron* spp.<sup>1</sup>  
*Rosa banksiae*  
*Rudbeckia* spp.<sup>1</sup>  
*Rumohra adiantiformis*  
*Santolina virens*  
*Saxifraga* spp.<sup>1</sup>  
*Scabiosa* spp.<sup>1</sup>  
*Sedum album*  
*Spiraea bumalda*<sup>1</sup>  
*Syzygium paniculatum*  
*Taxus cuspidata*  
*Taxus media*  
*Teucrium* spp.<sup>1</sup>  
*Thalictrum dipterocarpum*<sup>1</sup>  
*Thuja occidentalis*  
*Trachelospermum asiaticum*  
*Tsuga canadensis*  
*Tulipa* spp.  
*Veronica* spp.<sup>1</sup>  
*Viburnum japonicum*  
*Viburnum odoratissimum*  
*Viburnum plicatum*  
*Viburnum rigidum*  
*Viburnum japonicum*  
*Viburnum suspensum*<sup>1</sup>  
*Viburnum tinus*  
*Viburnum trilobium*  
*Viburnum wrightii*  
*Vinca major*

**Common name**

Eastern White Pine  
 Scotch Pine  
 Loblolly Pine  
 Japanese Black Pine  
 Virginia Pine  
 Pistachio\*  
 Queensland Pittosporum  
 Japanese Pittosporum  
 Japanese Yew  
 English Laurel  
 Almond, Apricot, Nectarine, Peach, Plum and Prune\*  
 Douglas Fir\*\*  
 Firethorn Scarlet  
 Firethorn  
 Firethorn  
 Pear spp. including Bradford  
 Oak species  
 Oak, Shumard's Red  
 Indian Hawthorne  
 Yedda Hawthorne  
 Rhododendrons, Azaleas  
 Lady Bank's Rose  
 Black-Eyed Susan: Goldstrum  
 Leatherleaf Fern  
  
 Saxifrage; Purple Dome  
 Pincushion Flower  
 Stonecrop  
 Spirea: Anthony Waterer  
 Japanese Boxcherry  
 Japanese Yew  
 Yew  
 Germander  
 Meadow Rue  
 American Arborvitae  
 Star Jasmine  
 Canada Hemlock  
 Tulip species  
 Veronica, Speedwell  
 Japanese Viburnum  
 Sweet Viburnum  
 Japanese Snowball  
 Canary Island Viburnum  
 Japanese viburnum  
 Arrowwood viburnum  
 Laurustinus  
 Cranberry Bush  
 Leatherleaf Viburnum  
 Vinca

**Scientific name**

*Vinca minor*  
*Vitis* spp.\*  
*Weigela florida*  
*Yucca aloifolia*  
*Yucca filamentosa*

**Common name**

Dwarf Periwinkle  
Grape\*  
Old Fashioned Weigela  
Spanish Bayonet  
Yucca, Adam's Needle

\*Do not use on food producing trees, vines, or plants.

\*\*Not for use on container grown plants.

<sup>1</sup>Not for Use in California.

**Use Precautions - Container, Field-grown and Landscape Ornamental Plantings and Christmas Tree Farms**

1. Do not exceed a dosage of Alligare Prodiamine 4L of 1.5 pounds active/acre (48 fl oz/acre) per year on any site.
2. Disturbing the herbicide barrier with cultural practices such as disking, harrowing and deep raking can result in reduced weed control.

**VEGETATION MANAGEMENT**

**Product Information**

Apply Alligare Prodiamine 4L to soil surfaces for preemergence control of many grass and broadleaf weeds in non-crop areas including ornamentals (does not include container or field grown ornamentals) and established perennial and wildflower plantings on or surrounding non-crop areas such as managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways, and equipment yards) and facilities including substations, tank farms, pumping stations, parking and storage areas, and non-grazed fence rows. The best weed control occurs when the product is activated in the soil by 0.5 inch of irrigation or rainfall before weed seeds germinate and within 14 days after application.

**Timing and Method of Application**

Alligare Prodiamine 4L is a preemergence herbicide only and will not control emerged grass or broadleaf weeds. It works best when applied to soil that is free of clods, weeds and debris and is activated by at least 0.5 inches of irrigation or rainfall or shallow incorporation to a depth of 1 to 2 inches. Weed control is improved if Alligare Prodiamine 4L is activated in the soil before weed seeds germinate and within 14 days after application. Apply Alligare Prodiamine 4L to newly-transplanted and established ornamentals as a broadcast or over-the-top spray.

**Crop Tolerance**

Direct application of Alligare Prodiamine 4L to rapidly growing tissue or buds can injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of Alligare Prodiamine 4L can injure new growth of desirable plants, however, these effects are temporary. To reduce the possibility of injury at this time, wait to apply Alligare Prodiamine 4L over the top of newly emerged vegetation until it has hardened off, unless your experience indicates that the ornamental plant will not be injured by the over-the-top application. After application, immediately apply overhead irrigation to the foliage to wash Alligare Prodiamine 4L from plant surfaces onto soil (watering the foliage of plants before application can improve the washing process

**WEEDS CONTROLLED - VEGETATION MANAGEMENT**

When used as directed in this label for Vegetation Management Alligare Prodiamine 4L will control the grass and broadleaf weeds listed in **Table 12**.

**Table 12. Weeds Controlled by Alligare Prodiamine 4L Used in Vegetation Management**

<u>Common Name</u>	<u>Scientific Name</u>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Betony, Florida*	<i>Stachys flordana</i>
Bluegrass, Annual <sup>1</sup>	<i>Poa annua</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed, Common <sup>1</sup>	<i>Stellaria media</i>
Chickweed, Mouseear (from seed)	<i>Cerastium vulgatum</i>
Crabgrass, Large <sup>3</sup>	<i>Digitaria sanguinalis</i>
Crabgrass, Smooth <sup>3</sup>	<i>Digitaria ischaemum</i>
Crowfootgrass	<i>Dactyloctenium aegypticum</i>
Cupgrass, Woolly	<i>Eriochloa villosa</i>
Foxtails, Annual	<i>Setaria</i> spp.
Goosegrass <sup>3</sup>	<i>Eleusine indica</i>
Henbit <sup>1</sup>	<i>Lamium amplexicaule</i>
Itchgrass	<i>Rottboellia cochinchinensis</i>
Jew, Wandering <sup>2,*</sup>	<i>Zebrian pendual</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Knotweed <sup>1</sup>	<i>Polygonum</i> spp.
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lovegrass	<i>Eragrostis</i> spp.
Oxalis, Buttercup*	<i>Oxalis pes-caprae</i>
Panicum, Texas	<i>Panicum texanum</i>
Panicum, Fall	<i>Panicum dichotomiflorum</i>
Panicum, Browntop	<i>Panicum fasciculatum</i>
Pigweed	<i>Amaranthus</i> spp.
Purslane, Common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Rescuegrass <sup>2</sup>	<i>Bromus catharticus</i>
Shepherdspurse <sup>1</sup>	<i>Capsella bursa-pastoris</i>
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Speedwell, Persian	<i>Veronica persica</i>
Sprangletop	<i>Leptochloa</i> spp.
Spurge, Prostrate	<i>Chamaesyce humistrata</i>
Vetch, Common*	<i>Vicia sativa</i>
Witchgrass	<i>Panicum capillare</i>
Woodsorrel, Yellow (from seed)	<i>Oxalis stricta</i>

<sup>1</sup> To control this weed, apply Alligare Prodiamine 4L in late summer, fall, or winter before weeds germinate.

<sup>2</sup> Suppression only.

<sup>3</sup> Make sequential applications as long as the total amount of product applied does not exceed 48 fl oz/acre per year. To control weeds, all applications must be made before weed seeds germinate.

\*Not for Use in California.

**Table 13. Amount of Alligare Prodiamine 4L to Apply in Vegetation Management**

Amount to Apply (Broadcast)*	When to Apply	Comments/Instructions
21-48 fl oz/acre  or  0.5-1.1 fl oz/1,000 sq ft	In fall or spring before weeds germinate or after weeds are removed.	Use the higher rate for longer control. Alligare Prodiamine 4L can be applied more than once per year as long as the total amount of product applied does not exceed 48 fl oz/acre (1.5 pounds active/acre) per year.

\*NOTE: For band application, calculate amount per acre:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{broadcast rate} = \text{amount to apply/acre of field}$$

**Table 14. Equivalent Measurements for Alligare Prodiamine 4L**

Fl oz/Acre	Fl oz/1,000 sq ft	Approximate Equivalent - Tablespoons/1,000 sq ft
21	0.5	1.0
31	0.7	1.5
42	1.0	2.0
48	1.1	2.25

**Table 15. Application Sites and Precautions for Alligare Prodiamine 4L Used in Vegetation Management**

Site	Application Precautions
Ornamental Trees, Shrubs, Vines	<ul style="list-style-type: none"> <li>Apply as a broadcast spray, over-the-top, or as a directed spray.</li> <li>Delay applications to newly transplanted ornamentals until soil has settled around transplants.</li> </ul>
Ornamental Bulbs and Perennial Wildflower Plantings	<ul style="list-style-type: none"> <li>Alligare Prodiamine 4L can be applied to bulbs or perennial wildflower species listed in the Tolerant Ornamental Species section (Table 11). Apply before or after bulbs emerge but before bulbs bloom and weeds emerge.</li> <li>In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged.</li> </ul>

**Tank Mixtures for Use in Vegetation Management**

Tank mix Alligare Prodiamine 4L with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Alligare Prodiamine 4L are for use only in states where the tank-mix partner(s), application site and intended use pattern are registered.

Follow the label directions of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank-mix partner in the spray tank, test for compatibility as described on this label.

**Table 16. Tank-Mix Partners for Alligare Prodiamine 4L Use in Vegetation Management**

Product	Precautions/Instructions
Galigan 2E <sup>®</sup> , (use on conifers only)	<ul style="list-style-type: none"> <li>Mix with Alligare Prodiamine 4L for postemergence control of certain broadleaf weeds including malva and filaree.</li> </ul>
Quali-Pro Isoxaben 75 WG, Princep <sup>®</sup> , MANA Parallel	<ul style="list-style-type: none"> <li>See product labels for weed spectrum and tolerant ornamentals.</li> </ul>
Glyphogan <sup>®</sup> (or other glyphosate-based products) and Finale <sup>®</sup>	<ul style="list-style-type: none"> <li>These nonselective tank mix herbicides control many emerged annual broadleaves and grasses.</li> <li>Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation might be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants.</li> <li>Following instructions on the tank-mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.</li> </ul>

**Tolerant Ornamental Species - Vegetation Management**

Alligare Prodiamine 4L will not harm trees, shrubs, vines and flowers. The species listed above in Table 11 are tolerant to Alligare Prodiamine 4L. Alligare Prodiamine 4L can be used for application to these species. Alligare Prodiamine 4L can be applied over the top of the listed species.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Alligare Prodiamine 4L.

**VEGETATION MANAGEMENT – CONIFER AND HARDWOOD SEEDLING NURSERIES (NON-ORNAMENTAL, FORESTRY USE ONLY)**

**Product Information**

Alligare Prodiamine 4L provides residual preemergence weed control in conifer and hardwood seedling nurseries. The best weed control occurs when the product is activated in the soil by 0.5 inches of irrigation or rainfall before weed seeds germinate and within 14 days after application. Apply Alligare Prodiamine 4L to conifer and hardwood seedling nurseries any time after the soil has settled around newly transplanted seedlings and liners.

**Table 17. Amount of Alligare Prodiamine 4L to Apply to Conifer and Hardwood Seedling Nurseries**

Site	Application Rate	Timing	Comments/Instructions
Conifer and Hardwood Seedling Nurseries	21 - 48 fl oz/acre or 0.5-1.0 fl oz/1,000 sq ft	Apply in fall or spring before weed seeds germinate or after weeds are removed.	Use higher rate range for longer control. More than one application per year is permitted, but do not apply more than 48 fl oz/acre (1.5 pounds active/acre) per year.
Southern Pine Seedbeds	15.5 fl oz/acre or 0.4 fl oz/1,000 sq ft	Just after seeding and/or a minimum of 3 weeks after most seedlings have shed their seedcoat.	To assist in the establishment of Southern pine seedbeds, apply this product preemergence just after seeding pines. Application after emergence of pine seedlings must not occur until 3 weeks after most seedlings have shed their seedcoat. Mix this product with clean water

			and broadcast spray at 20 to 40 psi in a minimum of 20 gallons of water per treated acre. After application, sprinkler irrigate beds with approximately 0.5 inches of water.
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Site	Application Rate	Timing	Comments/Instructions
Hardwood Seedbeds: Oak ( <i>Quercus</i> spp.), Sweetgum, Green Ash	15.5-31 fl oz/acre Or 0.35-0.70 fl oz/1,000 sq ft	When seedlings are at least 6 weeks old (from time of 50% germination).	Use higher rate for longer control and when higher weed pressure is anticipated. The lower rate will provide 2 to 3 months of weed control. Broadcast to beds and apply approximately 0.5 inches of sprinkler irrigation afterwards.

**Tank Mixtures for Use in Conifer Seedling Nurseries**

Tank mix Alligare Prodiamine 4L with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Alligare Prodiamine 4L are for use only in states where the tank-mix partner(s), application site and intended use pattern are registered.

Follow the label directions of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank-mix partner-in-the-spray tank, test for compatibility as described on this label. See the **Compatibility Test** section.

For Conifer Seedling Nurseries, tank mix Alligare Prodiamine 4L only with oryzalin containing herbicides such as Galigan 2E® (for use on conifers only). Use this tank mix for postemergence control of certain broadleaf weeds including malva and filaree.

**VEGETATION MANAGEMENT - NON-CROP AREAS**

**Product Information**

Apply Alligare Prodiamine 4L to soil surfaces for preemergence control of many grass and broadleaf weeds in non-crop areas including ornamentals (does not include container or field grown ornamentals) and established perennial and wildflower plantings on or surrounding non-crop areas as directed in **Table 18**. The best weed control occurs when the product is activated in the soil by 0.5 inches of irrigation or rainfall before weed seeds germinate and within 14 days after application.

**Table 18. Amount of Alligare Prodiamine 4L to Apply to Non-Crop Areas for Control of Weeds Listed in Table 12.**

Site	Application Rate	Timing	Comments/Instructions
Non-crop areas, including ornamentals, on or surrounding managed rights-of-way for transportation, systems and utilities (including roadways, roadsides, railways, and equipment yards); Facilities including substations, tank farms, pumping stations, parking	21 - 48 fl oz/acre or 0.5-1.0 fl oz/1,000 sq ft	Before weed seeds germinate	Use higher rate range for longer control. More than one application per year is permitted, but do not apply more than 48 fl oz/acre (1.5 pounds active/acre) per year.

and storage areas, and non-grazed fence rows.			
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**Tank Mixtures for Use in Non-Crop Areas**

Tank mix Alligare Prodiamine 4L with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Alligare Prodiamine 4L are for use only in states where the tank-mix partner(s), application site and intended use pattern are registered.

Follow the label directions of the tank-mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank-mix partner in the spray tank, test for compatibility as described on this label. See the **Compatibility Testing** section of this label.

For non-crop areas, tank mix Alligare Prodiamine 4L with Glyphogan® (or other glyphosate-based products), Parazone 3SL® (or other paraquat-based products), Diuron 4L (or other diuron-based products), Oryzalin 4AS (or other oryzalin based products), Reward®, Predict®, Princep®, Vanquish®, Finale®, Quali-Pro Isoxaben 75 WG, Garlon®, Krovar® I and II, Oust®, Arsenal®, Spike® and Telar®.

**~~VEGETATION MANAGEMENT FOR CONTROL OF CERTAIN WEEDS ON DRAINAGE DITCHES IN CALIFORNIA AND ARIZONA ONLY~~**

~~For weed control in irrigation, drainage ditches, spreading grounds, channels, canals, and similar sites apply 21 to 48 fl oz/acre of Alligare Prodiamine 4L for preemergent control of shallow germinating annual grasses and small seeded broadleaf weeds. Alligare Prodiamine 4L inhibits growth and development of newly germinated weed seeds. It will not control established vegetation. Higher rates of application provide for a longer control period. Sequential applications are allowed so long as the total amount of product applied does not exceed the maximum annual application of 48 fl oz/acre (1.5 pounds active/acre). Apply only when water is not present. For irrigation ditches, apply when ditch is not in use. To minimize movement of Alligare Prodiamine 4L with irrigation water and to activate product, it is essential that the herbicide be fixed in the soil by moisture. Apply before expected seasonal rainfall (if possible when soil in the ditch is still moist). Following treatment, if rainfall has not totaled at least 0.5 inches within 14 to 21 days, fill ditch with water and allow to stand for 48 hours; drain off any remaining water before using ditch.~~

~~For weed control in wastewater treatment facilities (Levees) apply 21 to 48 fl oz/acre of Alligare Prodiamine 4L for preemergent control of shallow germinating annual grasses and small seeded broadleaf weeds. Use the higher rate of application for longer control periods. Sequential applications are allowed so long as the total amount of product applied does not exceed the maximum annual application of 48 fl oz/acre (1.5 pounds active/acre). Applications can be made down to the water level. Do not apply to the water. Care must be taken not to allow overspray of the water or drift into the water.~~

**~~Use Precautions - Vegetation Management~~**

- ~~1. Do not exceed a dosage of Alligare Prodiamine 4L of 1.5 pounds active/acre (48 fl oz/acre) per year on any site.~~
- ~~2. Disturbing the herbicide barrier with cultural practices such as disking, harrowing and deep raking can result in reduced weed control.~~

**CHEMIGATION INSTRUCTIONS - OVERHEAD SPRINKLER IRRIGATION APPLICATION**

1. Apply this product only through an overhead sprinkler irrigation system. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result in non-uniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
3. To avoid injury to foliage, make sure foliage is sufficiently wet before application or adequate

irrigation is applied after application.

4. If sprinkler distribution patterns overlap excessively, injury to leatherleaf ferns and other ornamentals can result.
5. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to public water systems unless pesticide label-prescribed safety devices for public water systems are in place.
6. If necessary, a person knowledgeable of the chemigation system and responsible for its operation, or someone under the supervision of the responsible person, shall shut the system down and make necessary adjustments.

**Operation Instruction**

1. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely effected.
6. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 20 parts of water and 1 part Alligare Prodiamine 4L and inject this herbicide suspension mixture into the overhead system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Before injecting Alligare Prodiamine 4L into the system, run the irrigation system long enough to wet the foliage, then inject Alligare Prodiamine 4L suspension mixture in the pesticide supply tank (see Number 8 above) in 1 inch of irrigation water. After the application is complete, continue the irrigation until all residues are washed off the foliage.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** For minor spills, leaks, or other accidental contamination, follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during clean up and disposal of wastes.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:**

**Nonrefillable Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for



recycling if available, or puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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. Then offer for recycling if available or puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Refillable Container:** Refillable container. Refill this container with [common chemical name] only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. 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 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

To the extent consistent with applicable law, upon purchase or use of this product, purchaser and user agree to the following terms:

**Warranty:** Alligare, LLC (the Company) warrants that this product conforms to the chemical description on the label in all material respects and is reasonably fit for the purpose referred to in the directions for use, subject to the exceptions noted below, which are beyond the Company's control. To the extent consistent with applicable law, the Company makes no other representation or warranty, express or implied, concerning the product, including no implied warranty of merchantability or fitness for a particular purpose. To the extent consistent with applicable law, no such warranty shall be implied by law, and no agent or representative is authorized to make any such warranty on the Company's behalf.

**Terms of Sale:** The Company's directions for use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, and the manner of use or application (including failure to adhere to label directions), all of which are beyond the Company's control. To the extent consistent with applicable law, all such risks are assumed by the user.

**Limitation of Liability:** To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damages, and in no event shall damages or any other recovery of any kind exceed the price of the product which caused the alleged loss, damage, injury or other claim. To the extent consistent with applicable law, under no circumstances shall the Company be liable for any special, indirect, incidental or

consequential damages of any kind, including loss of profits or income. Some states do not allow the exclusion or limitation of incidental or consequential damages.

The Company and the seller offer this product, and the purchaser and user accept this product, subject to the foregoing warranty, terms of sale and limitation of liability, which may be varied or modified only by an agreement in writing signed on behalf of the Company by an authorized representative.

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