

# **AQUATIC WEED CONTROL - SUBMERGED AQUATIC WEEDS**

## General Information

## Product Information

2,4-D Amine 4 herbicide is intended for selective control of many broadleaf weeds in certain crops (cereal grains, corn, grain sorghum, soybeans and sugarcane), orchard floors (pome fruit, including apples and pears, stone fruit, nut orchards and pistachios), fallow cropland, forests, grass pastures, rangeland, Conservation Reserve Program acres, ornamental turf (including turf grown for sod or seed), non-cropland and aquatic areas.

Apply 2,4-D Amine 4 as a water or oil-water spray during warm weather when target weeds or woody plants are actively growing.

Application under drought conditions will often give poor results. Use low spray pressure to minimize drift. Generally, the lower dosages specified on the label will be satisfactory for young, succulent growth of susceptible weed species. For less susceptible species and under conditions where control is more difficult, use higher specified rates. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for satisfactory control. Consult your State Agricultural Experiment stations or Extension Service Weed Specialists for recommendations from the label that best fit local conditions.

## Product Use Precautions and Restrictions

Be sure that use of 2,4-D Amine 4 conforms to all application regulations.

## Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, fruit trees, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that may not be visible may

injure susceptible broadleaf plants.

## Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

## Aerial Application

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

## Ground Boom Application

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

## Application

Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, use a spray volume of 3 or more gallons per acre by air and 10 or more gallons per acre for ground equipment. Where states have regulations which specify minimum spray volumes, they should be observed. In general, spray volume should be increased as crop canopy, height and weed density increase in order to obtain adequate spray coverage. Do not apply less than 3 gallons total spray volume per acre.

## Rate Ranges and Application Timing

Generally, the lower dosages given will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed. Apply 2,4-D Amine 4

during warm weather when weeds are young and actively growing.

## Spot Treatments

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1,000 sq ft as indicated below.

**Hand-Held Sprayers:** Hand-held sprayers may be used for spot applications of 2,4-D Amine 4. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on the application rate for an area of 1,000 sq ft. Mix the amount of 2,4-D Amine 4 (fl oz or ml) corresponding to the desired broadcast rate in 1 to 3 gallons of spray. To calculate the amount of 2,4-D Amine 4 IVM required for larger areas, multiply the table value (fl oz or ml) by the thousands of sq ft to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

## Limitations, Restrictions, and Exceptions

Aquatic Weed Control in Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams that are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority

**Notice to Applicators:** Before application, coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for such use.

**Submerged Aquatic Weeds:** Including Eurasian Water Milfoil (*Myriophyllum spicatum*)

### Restrictions:

- Maximum of 10.8 lbs acid equivalent per acre-foot per application.
- Limited to 2 applications per season.
- Do not apply within 21 days of previous application.
- When treating moving bodies of water, applications must be made while traveling upstream to prevent concentration of 2,4-D downstream from the application.

Apply to aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, nonirrigation canals, rivers, and streams that are quiescent or slow moving.

Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

### Specific Use Directions

**Application Timing:** For best results, apply in spring or early summer when aquatic weeds appear. Check for weed growth in areas heavily infested the previous year.

A second application may be needed when weeds show signs of recovery, but no later than mid-August in most areas.

**Subsurface Application:** Apply 2,4-D Amine 4 undiluted directly to the water through a boat mounted distribution system. Shoreline areas should be treated by subsurface injection application by boat to avoid aerial drift.

**Surface Application:** Use power operated boat mounted boom sprayer. If rate is less than 5 gallons per acre, dilute to a minimum spray volume of 5 gallons per surface acre.

**Aerial Application:** Use drift control spray equipment or thickening agents mixed with sprays to reduce drift. Apply through standard boom systems in a minimum spray volume of 5 gallons per surface acre. For Microfoil\* drift control spray systems, apply 2,4-D Amine 4 in a total spray volume of 12 to 15 gallons per acre. Apply to attain a concentration of 2 to 4 ppm (see table below).

### Water Use

#### 1. Water for irrigation or sprays:

A. If treated water is intended to be used only for crops or non-crop areas that are labeled for direct treatment with 2,4-D such as pastures, turf, or cereal grains, the treated water may be used to irrigate and/or mix sprays from these sites at any time after the 2,4-D aquatic application.

Due to potential phytotoxicity considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses; and other plants or crops

that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:

- i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or,
- ii. A waiting period of 7 days from the time of application has elapsed, or,
- iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake.

Wait at least 3 days after application before initial sampling at water intake.

## 2. Drinking water (potable water):

A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on the label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.

B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is greater than or equal to 600 ft.

C. If no setback distance of greater than or equal to 600 ft. is used for application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for public water supply or to individual private water uses. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water.

The following is an example of a notification via posting, but other methods of notification which convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

Example:

Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake 3 or more days following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

Text of notification: Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date: Time:

D. Following each application of this product, treated water must not be used for drinking water unless one of the following restrictions has been observed:

- i. A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or,
- ii. A waiting period of at least 7 days from the time of application has elapsed, or,
- iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake.

Sampling for drinking water analysis should occur no sooner than 3 days after 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.

E. Note: Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.

F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

#### Precautions and Restrictions for Aquatic Use:

- Do not treat areas that are not infested with aquatic weeds.
- Wind Speed: Do not apply when wind speed is at or above 10 mph when making ground or surface applications. Do not aerially apply when wind speed is greater than 5 mph. Wind speed restrictions do not apply for subsurface applications used in submerged aquatic weed control programs.
- Dissolved Oxygen Ratio: Fish require oxygen dissolved in water for life processes and a favorable water- oxygen ratio must be maintained. Decaying weeds use up dissolved oxygen in water. Fish kill resulting from decaying plant material can be prevented by: (1) treating the entire area when the weed mass is sparse and the rate of decomposition will not be sufficient to disturb the water-oxygen ratio; or (2) If application is delayed until there is a dense weed mass, at no more than one-half of a lake or pond at one time. For large bodies of weed-infested water, apply product in lanes, leaving buffers strips at least 100 feet wide which can be treated in 4 to 5 weeks or when vegetation in treated lanes has decomposed. During the growing season, decomposition of treated strips will usually occur in 2 to 3 weeks.

#### Method

[Broadcast/Foliar Air](#)

[Surface](#)

[Subsurface](#)

#### Rates

[field\\_rates 0](#)

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#### Restricted Entry Interval

48 hours

#### Timings

[In spring or early summer when aquatic weeds appear.](#)