

# Opti-Amine

## 2,4-D AMINE HERBICIDE

<b>ACTIVE INGREDIENT:</b>	<b>BY WT.</b>
Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid .....	46.7%
<b>INERT INGREDIENTS</b> .....	53.3%
<b>TOTAL</b> .....	100.0%

Equivalent to 38.8% of 2,4-Dichlorophenoxyacetic acid or 3.8 lbs./gal. Isomer specific by AOAC Method 6.275, 13th Ed, 1980.

### KEEP OUT OF REACH OF CHILDREN DANGER – PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

#### PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### FIRST AID

**IF IN EYES:** Hold eyelid open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor immediately for treatment advice.

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

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor immediately for treatment advice.

**IF INHALED:** Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency assistance call toll-free, 1-800-424-9300 (ChemTrec).

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

**SEE INSIDE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.**

EPA Reg. No. 5905-501  
EPA Est. No. 42750-MO-001

AD 081910-A  
U.S. Patent #5,877,112

### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Protect from freezing. If stored below 32°F and crystals form, warm to 72°F for 24 hours, periodically rolling drum to reconstitute. **PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate, is a violation of Federal Law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL: NONREFILLABLE METAL CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. **NONREFILLABLE METAL CONTAINER (GREATER THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. **NONREFILLABLE PLASTIC CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration if allowed by state and local authorities. If burned, stay out of smoke. **NONREFILLABLE PLASTIC CONTAINER (GREATER THAN 5 GALLONS):** Do not reuse or refill this container. Triple rinse container (or equivalent) 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or incineration if allowed by state and local authorities. If burned, stay out of smoke. **REFILLABLE CONTAINER:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn-out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. 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. If the container is not being refilled, return to the point of purchase or designated location.

Manufactured For

**HELENA CHEMICAL COMPANY**  
225 SCHILLING BOULEVARD, SUITE 300  
COLLIERVILLE, TENNESSEE 38017

PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

# Opti-Amine®

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<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
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NET CONTENTS:

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## PRECAUTIONARY STATEMENTS

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### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

# DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are waterproof materials. If you want more options follow the instructions for category A on an EPA chemical-resistance category selection chart.

**All mixers, loaders, applicators, flaggers, and other handlers must wear:**

- Long-sleeved shirt and long pants,
- Shoes and socks, plus
- Chemical-resistant gloves
- Protective eyewear (goggles or face shield)
- Chemical-resistant apron when applying postharvest dips or sprays to citrus, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See **Engineering Controls** for additional requirements.

### USER SAFETY REQUIREMENTS

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:

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

### USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

**For terrestrial uses:** This product may be toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as permitted by this label. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2- to 3-week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.





## GROUNDWATER CONTAMINATION

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D has been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

## PHYSICAL OR CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

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## DIRECTIONS FOR USE

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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.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order of injunctive relief in Washington Toxics Coalition, et. al. v. EP, C01-0132C, (W.D. WA). For further information, please refer to <http://www.epa.gov/espp/wtc>.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

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 made of any waterproof material
- Shoes plus socks
- Protective eyewear

## 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 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.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

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:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in 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, forests, nurseries, or greenhouses. Do not enter or allow people (or pets) to enter the treated area until sprays have dried.





## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, air blast, and chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

### **Droplet Size**

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

### **Wind Speed**

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

### **Temperature Inversions**

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

### **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, grapes (in growing stage), fruit trees (foliage), soybeans (vegetable stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

### **Other State and Local Requirements**

Applicators must follow all State and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

### **Equipment**

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

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

2,4-D amines may volatilize during conditions of low humidity and high temperatures. Do not apply during conditions of low humidity and high temperatures.

## CHEMIGATION PROHIBITION

Do not apply this product through any type of irrigation system.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Protect from freezing. If stored below 32°F and crystals form, warm to 72°F for 24 hours, periodically rolling drum to reconstitute.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate, is a violation of Federal Law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

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**REFILLABLE CONTAINER:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn-out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. 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. If the container is not being refilled, return to the point of purchase or designated location.

## GENERAL INFORMATION

Performance of this product may be affected by local condition, crop varieties, and application method. User should consult local extension service, agricultural experiment, or university weed specialists, and State regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than recommended will be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, the higher recommended rates should be used.

When product is used for weed control in crops, the growth stage of the crop must be considered.

Some plants and weeds, especially woody varieties, are difficult to control and may require repeat applications. Application rates should be 1 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of 2,4-D recommended per acre. For crop uses, do not mix with oil, surfactants, or other adjuvants unless specifically recommended on label. To do so may reduce herbicide's selectivity and could result in crop damage.

Aerial application should be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. This product contains the Dimethylamine salt of 2,4-D, one of the least volatile forms of 2,4-D.

Because coarse sprays are less likely to drift than fine, do not use equipment (such as hollow cone small-orifice nozzles) or conditions (such as high pressure) that produce such sprays.

Product should not be allowed to come into contact with desirable, susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes, and other vegetables. Product should not be used in greenhouses. Excessive amounts of this product in the soil may temporarily inhibit seed germination and all plant growth.

Users should note that herbicide treatment of public water requires a permit from appropriate state agencies in most states. Your State Conservation Department, or Game and Fish Commission will aid you in securing a permit in your state.

If stored below freezing, it may be necessary to warm product to 70°F and agitate before using. This does not affect the efficiency of the product.

Spray equipment used to apply 2,4-D should not be used for any other purpose until thoroughly cleaned with suitable chemical cleaner containing ammonia.

**Spray Preparation:** Add the recommended amount of **OPTI-AMINE®** to approximately one-half the volume of water to be used for spraying. Agitate well, and then add the remainder of the water. Continue agitation during application until spray tank is empty.

**Use in Liquid Nitrogen Fertilizer:** **OPTI-AMINE®** may be combined with liquid nitrogen fertilizer suitable for foliar application of corn, grass, pastures, or small grains in one operation. Use **OPTI-AMINE®** according to directions on this label for those crops. Use liquid nitrogen fertilizer at rates recommended by supplier or extension service specialist. Mix the product and fertilizer according to the following instructions:

Fill the spray tank approximately 1/2 full with the liquid nitrogen fertilizer. In a separate container, mix the amount of **OPTI-AMINE®** to be used with an equal amount of water. Add **OPTI-AMINE®** mixture to the spray tank while agitating. Add the remainder of the fertilizer while continuing to agitate. Apply immediately, maintaining agitation during application until tank is empty. **DO NOT APPLY DURING COLD (NEAR FREEZING) WEATHER.** Spray mixture must be used immediately and may not be stored.

**NOTE:** Pre-mixing the product with an equal amount of water is important.

## WHERE TO USE

This product is used to control broadleaf weeds in Apples, Pears, Stone Fruits, Nut Orchards, Filberts, Cereal Crops, Corn, Sorghum, Soybeans, Sugarcane, weeds and brush in rangeland, Turf Applications, Pastures, Rights-of-Way, and similar noncrop uses, tree injection, and for aquatic weed control.

## WEEDS CONTROLLED

ALDERS	GOATSBEARD	RAGWEED
ALLIGATOR WEED	*GOLDENROD	RUSH
AMERICAN LOTUS	GOOSEFOOT	*RUSSIAN THISTLE
ARROWHEAD	*GROUND IVY	SAGEBRUSH
ASTER	GUMWEED	SALSIFY
ARTICHOKE	HEALALL	*SALT CEDAR ( <i>T. ramosissima</i> )
AUSTRIAN FIELDCRESS	HEMP	SHEPHERDSPURSE
*BEGGARTICKS	HENBIT	SICKLEPOD
BIDEN	*HOARY CRESS	*SMARTWEEDS
*BINDWEED	HORSETAIL	SNEEZEWEED
BITTERSWEET	HONEYSUCKLE	SOUTHERN WILD ROSE
BITTERWEED	INDIGO	SOW THISTLE
BITTER WINTERCRESS	INDIAN MALLOW	SPANISH NEEDLES
BLACKEYED SUSAN	*IRONWEED	SPATTERDOCK
BLESSED THISTLE	JERUSALEM ARTICHOKE	ST. JOHNSWORT
BLUE LETTUCE	JEWELWEED	STINGING NETTLES
BOX ELDER	JIMSONWEED	STINKWEED
BROOMWEED	*KNOTWEED	SUMAC
BUCKHORN	LAMBSQUARTERS	SUNFLOWER
BULLTHISTLE	LOCOWEED	SWEET CLOVER
BULRUSH	LUPINES	TANWEED
BURDOCK	*MALLOW	TARWEED
BUR RAGWEED	MARIJUANA	THISTLES
BUTTERCUP	MARSHELDER	TOADFLAX
*CANADA THISTLE	MEXICAN WEED	TUMBLEWEED
CARPETWEED	MORNINGGLORY	VELVETLEAF
CATNIP	***MUSKTHISTLE	VENICEMALLOW
CHICKWEED	MUSTARDS	*VERVAINS
CHICKORY	*NETTLES	VETCHES
CINQUEFOIL	NUTGRASS	VIRGINIA CREEPER
COCKLE	*ORANGE HAWKWEED	WATER HYACINTH
COCKLEBUR	PARROT FEATHER	WATER LILY
COFFEEBEAN	PARSNIP	WATER PLANTAIN
COFFEEWEED	PENNYCRESS	WATER PRIMROSE
CREEPING JENNY	PENNYWORT	WATER SHIELD
CROTON	PEPPERGRASS	WILD CARROT
CURLY INDIGO	PEPPERWEED	*WILD GARLIC
DANDELION	**PIGWEEDS	WILD LETTUCE
DEVIL'S CLAW	PLANTAINS	*WILD ONION
( <i>Proboscidea louisianica</i> )	POISON HEMLOCK	WILD PARSNIP
*DOCKS	POISON IVY	WILD RADISH
*DOGBANE	POKEWEED	WILD RAPE
DUCKWEED	POORJOE	WILD STRAWBERRY
ELDERBERRY	POVERTYWEED	WILD SWEET POTATO
FLEABANE	PRICKLY LETTUCE	WILLOW
FIXWEED	PRIMROSE	WITCHWEED
FLORIDA PUSLEY	PUNCTURE VINE	WOODWORM
FRENCHWEED	PURSLANE	WORMSEED
GALINSOGA	RADISH	YELLOW ROCKET

\*These species may require repeated applications and/or use of the higher rate recommended on this product label even under ideal conditions.

\*\*Control of pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

\*\*\*Not registered for control of muskthistle in CA.



## SPECIFIC USE DIRECTIONS

### APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual Broadleaf Weeds	3 pints	For control of weeds on the orchard floor, apply using coarse sprays and low pressure in sufficient volume of water to obtain thorough wetting of weeds. Treat when weeds are small and actively growing. Do not use on light, sandy soil. <b>DO NOT USE IN CALIFORNIA.</b>

#### RESTRICTIONS AND LIMITATIONS FOR USE IN APPLES, PEARS, STONE FRUIT AND NUT ORCHARDS:

- Do not apply to bare ground as injury may result.
- Do not apply immediately before irrigation and withhold irrigation for 2 days before and for 3 days after treatment.
- Do not allow spray to drift onto or contact foliage, fruit stems, and trunks of trees or exposed roots as injury may result.
- Do not apply to newly established or young orchards. Trees must be at least 1 year old and in vigorous condition.
- Do not apply during bloom.
- Do not cut orchard floor forage for harvest within 7 days of application.
- Do not make more than 2 applications per year.
- Do not harvest stone fruit within 40 days of application.
- Do not harvest nuts within 60 days of application.
- Do not harvest apples or pears within 14 days of application.
- For apples and pears, and stone fruits, allow at least 75 days between applications.
- For Tree Nuts, allow at least 30 days between applications.

### FILBERTS

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Sucker Control	1-1/2 to 2 pints	Apply in 100 gallons of water per acre. Spray to runoff when suckers are 6 to 9 inches tall. Spray when needed, from April through August. Use large-orifice nozzles and low tank pressure (20 to 30 psi) to produce large droplet size.

#### RESTRICTIONS AND LIMITATIONS: FILBERTS:

- Preharvest Interval (PHI) 45 days
- Minimum of 30 days between applications
- Limited to 4 applications per year
- Maximum 33 ounces per 100 gallons of spray solution per application



## CEREAL GRAINS

### Barley, Millet, Rye, Triticale, Wheat

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Not underseeded with legumes Postemergence Annual and biennial broadleaf weeds  Perennial broadleaf weeds	1/2 to 2 pints*  1 to 2 pints*	Apply after grain is well tillered (usually about 4 to 8 inches high). Do not spray grain in the boot to dough stage.
Underseeded with legumes	1/4 to 1/2 pint*	Apply after grain is 8 inches tall. Do not spray grain in boot to dough stage. Do not spray alfalfa or sweet clover unless the infestation is severe and injury to these legumes can be tolerated.
Emergency weed control in Triticale, Wheat Perennial broadleaf weeds	2-1/2 pints	Apply when weeds are approaching bud stage, after the grain dough stage. Do not spray during the boot to dough stage. The 3 pints per acre application can produce injury to wheat. Balance the severity of your weed problem against the possibility of crop damage. Where perennial weeds are scattered, spot treatment is suggested to minimize the extent of crop injury.

\*Use the lower rate if small annual and biennial weeds are the major problem. Use the higher rate if perennial weeds or annual and biennial weeds are present which are in the hard-to-kill categories as determined by local experience. The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the grain damage risk. Do not apply **OPTI-AMINE®** to grain in the seedling stage.

#### RESTRICTIONS AND LIMITATIONS FOR USE ON CEREAL GRAINS:

- For aerial application on grain, apply **OPTI-AMINE®** in 3 to 10 gallons of water per acre.
- For ground application a minimum of 10 to 15 gallons of water per acre is recommended for proper spray coverage.
- Do not permit dairy animals or meat animals being finished for slaughter to forage treated grain fields within 2 weeks after treatment.
- Do not feed treated straw to livestock if an emergency treatment as described above is applied.
- **Postemergence:**
  - Limited to one application per crop cycle.
  - Maximum of 42 ounces per acre per application.
- **Preharvest:**
  - Limited to one application to crop cycle.
  - Maximum of 16 ounces per acre per application.
- Preharvest interval (PHI) is 14 days.
- Limited to 58 ounces per acre per crop cycle



### CEREAL GRAINS (Not Underseeded with a Legume) Oats

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE* (Average Conditions)	DIRECTIONS FOR USE
Spring Planted Oats	1/2 to 2 pints*	Apply in sufficient water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage. <b>Note:</b> Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured.
Fall Planted Oats	1 to 1-1/2 pints	Apply after full tillering but before early boot stage. Some difficult weeds may require higher rates of 1/2 to 5/6 pint per acre for maximum control, but injury may result. Do not spray during or immediately following cold weather. <b>Note:</b> Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured.
Preharvest	1 pint	Apply with recommended amount of water per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth.

\*If band treatment is used, base the dosage rate on the actual area sprayed.

#### RESTRICTIONS AND LIMITATIONS FOR USE ON CEREAL GRAINS (Not Underseeded with a Legume) (Oats):

- The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the grain damage risk.
- Apply **OPTI-AMINE®** in sufficient water for adequate coverage.
- Do not permit dairy animals or meat animals being finished for slaughter to forage treated grain fields within 2 weeks after treatment.
- Do not feed treated straw to livestock.
- **Postemergence:**
  - Limited to one application per crop cycle.
  - Maximum of 42 ounces per acre per application.
- **Preharvest:**
  - Limited to one application to crop cycle.
  - Maximum of 11.4 ounces per acre per application.
- Preharvest interval (PHI) is 14 days.
- Limited to 58 ounces per acre per crop cycle.

### HOPS

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual broadleaf weeds	1 pint	Make directed applications to the row middles.

#### RESTRICTIONS AND LIMITATIONS FOR HOPS:

- Limited to three (3) applications per crop cycle.
- Maximum of 1 pint per acre per application.
- Maximum of 50 ounces per acre per crop cycle.
- Minimum of 30 days between applications.
- Preharvest Interval (PHI) is 28 days after application.

## CORN and SORGHUM

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
<b>CORN (Field and Pop)</b> Preplant  Preemergence  Postemergence; Annual broadleaf weeds  Perennial broadleaf weeds	1 to 2 pints	To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for less susceptible weeds or cover crops such as alfalfa.
	2 pints	Apply 3 to 5 days after planting but before corn emerges. Do not use on light, sandy soils or where soil moisture is low.
	1/2 to 1 pint	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). When corn is over 8 inches tall, use drop nozzles and keep spray off foliage. Treat perennial weeds when they are in the bud to bloom stage. Do not spray corn in the tassel to dough stage. Corn treated with 2,4-D may become temporarily brittle. Winds or cultivation may cause stalk breakage during the period of time when the corn is brittle.
	1 to 1-1/2 pints	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). When corn is over 8 inches tall, use drop nozzles and keep spray off foliage. Treat perennial weeds when they are in the bud to bloom stage. Do not spray corn in the tassel to dough stage. Corn treated with 2,4-D may become temporarily brittle. Winds or cultivation may cause stalk breakage during the period of time when the corn is brittle.
<b>CORN (Sweet)</b> Preplant  Preemergence  Postemergence; Annual broadleaf weeds  Perennial broadleaf weeds	1 to 2 pints	To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn, apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for less susceptible weeds or cover crops such as alfalfa.
	2 pints	Apply 3 to 5 days after planting but before corn emerges. Do not use on light, sandy soils or where soil moisture is low.
	1/2 to 1 pint	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). When corn is over 8 inches tall, use drop nozzles and keep spray off foliage. Treat perennial weeds when they are in the bud to bloom stage. Do not spray corn in the tassel to dough stage. Corn treated with 2,4-D may become temporarily brittle. Winds or cultivation may cause stalk breakage during the period of time when the corn is brittle.
	1 to 1-1/2 pints	Apply when weeds are small and corn is less than 8 inches tall (to top of canopy). When corn is over 8 inches tall, use drop nozzles and keep spray off foliage. Treat perennial weeds when they are in the bud to bloom stage. Do not spray corn in the tassel to dough stage. Corn treated with 2,4-D may become temporarily brittle. Winds or cultivation may cause stalk breakage during the period of time when the corn is brittle.
<b>GRAIN SORGHUM (Milo)</b>	1 pint	Apply when sorghum is 6 to 15 inches tall. If sorghum is taller than 8 inches to top of the canopy, use drop nozzles and keep spray off the foliage. Do not treat during the boot, flowering or dough stage.

### RESTRICTIONS AND LIMITATIONS FOR USE ON CORN AND SORGHUM:

- **Corn (Field and Pop):**
  - Preharvest Interval (PHI) is 7 days.
  - Do not use treated crop as fodder for 7 days following application.
  - Maximum Use rate per acre per crop cycle is 100 ounces.
  - Preplant or Preemergence:
    - Limited to one application per crop cycle.
    - Maximum of 33 ounces per acre per application.

(continued)

**RESTRICTIONS AND LIMITATIONS FOR USE ON CORN AND SORGHUM (cont.):**

- Postemergence:
  - Limited to one application per crop cycle.
  - Maximum of 16 ounces per acre per application.
- Preharvest:
  - Limited to one application per crop cycle.
  - Maximum of 50 ounces per acre per application.
- **Corn (Sweet):**
  - Preharvest Interval (PHI) is 45 days.
  - Do not use treated crop as fodder for 7 days following application.
  - Minimum of 21 days between applications.
  - Maximum Use rate per acre per crop cycle is 50 ounces.
  - Preplant or Preemergence:
    - Limited to one application per crop cycle.
    - Maximum of 33 ounces per acre per application.
  - Postemergence:
    - Limited to one application per crop cycle.
    - Maximum of 16 ounces per acre per application.
- **Sorghum (Milo):**
  - Preharvest Interval (PHI) is 30 days.
  - Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application.
  - Postemergence:
    - Limited to one application per crop cycle.
    - Maximum of 33 ounces per acre per application.

**RICE**

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Preplant	1 to 2 pints	Apply four or more weeks prior to planting rice. <b>DO NOT USE IN CALIFORNIA.</b>
Postemergence	1 to 2-1/2 pints	Apply when rice is in the late tillering stage of development at the time of first joint development. Do not apply after panicle initiation, after rice internodes exceed one-half inch, at early seedling, early panicle, boot or heading stages. Consult local university or Agricultural Extension Service specialists for more specific information on rates and timing of application. <b>DO NOT USE IN CALIFORNIA.</b>

**RESTRICTIONS AND LIMITATIONS FOR USE IN RICE:**

- Preharvest Interval (PHI) is 60 days
- Do not apply more than a total of 50 ounces of **OPTI-AMINE®** to rice per crop cycle.
- Preplant:
  - Limited to one application per crop cycle.
  - Maximum of 33 ounces per acre per application.
- Postemergence:
  - Limited to one application per crop cycle.
  - Maximum of 50 ounces per acre per application.
- Do not use on rice in California without an approved Supplemental Label allowing the use.

### SOYBEANS (Preplant Only)

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Postemergence	3/4 to 1 pint	Apply not less than 15 days prior to planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present.
	1 to 2 pints	Apply not less than 30 days prior to planting soybeans, when weeds are actively growing.
		<p>In addition to those weeds found on the <b>GENERAL WEED LIST</b>, <b>OPTI-AMINE®</b> will suppress or control the following broadleaf weeds frequently encountered in reduced tillage soybean production systems: alfalfa*, bullnettle, smallflowered bittercress, Carolina geranium, small-flowered buttercup, common and rough cinquefoil, red clover*, horse-weed or marestail, mousetail, wild mustard, field pennycress, cutleaf evening primrose, common purslane, speedwell, velvetleaf, and Virginia copperleaf*. These weeds are only partially controlled.</p> <p>Apply no more than 2.0 pints of <b>OPTI-AMINE®</b> in one season prior to planting soybeans. After applying, plant soybean seed as deep as practical or at least 1-1/2 to 2 inches deep. Adjust the planter press wheel, if necessary, to ensure that planted seed is completely covered.</p> <p>If desired, <b>OPTI-AMINE®</b> may be applied pre-plant to soybeans in tank mixtures with other herbicides such as Poast®, Poast Plus®, Roundup®, Roundup D-Pak®, Honcho®, Gramoxone Extra®, Prowl®, Pursuit Plus®, Scepter®, Scepter 70 DC, Squadron® and others that are registered for pre-plant soybean use.</p> <p><b>NOTE:</b> Unacceptable injury to soybeans planted in fields previously treated with <b>OPTI-AMINE®</b> may occur and the extent of injury will depend on weather and agronomic factors such as the amount of weed vegetation and previous crop residue present that may be in effect between the time of application and the emergence of the soybean plant.</p>

#### RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS (PREPLANT):

- Preplant:
  - Preplant for Two (2) applications per crop cycle
    - Limited to 2 preplant applications per crop cycle.
    - Maximum of 16 ounces per acre per preplant application.
    - Apply not less than 30 days prior to planting soybeans.
  - Preplant for Single (1) application per crop cycle
    - Limited to 1 preplant application per crop cycle.
    - Maximum of 32 ounces per acre per preplant application.
    - Apply not less than 15 days prior to planting soybeans
- Do not apply **OPTI-AMINE®** when weather conditions such as temperature, air inversions, or wind favor drift from treated areas to susceptible plants.
- Do not apply **OPTI-AMINE®** prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.
- Do not replant fields treated with **OPTI-AMINE®** in the same growing season with crops other than those labeled for 2,4-D pre-plant use.
- Do not mow or cultivate weeds prior to treating with **OPTI-AMINE®** as poor control may result. Do not cut for feed treated hay, forage, or fodder or graze treated soybeans to livestock.
- Do not apply **OPTI-AMINE®** pre-plant to soybeans in fields having a coarse-textured soil where the percent organic matter is <1.0%.
- Only one application of **OPTI-AMINE®** may be made prior to planting soybeans per growing season.
- Do not feed treated hay, forage or fodder. Livestock should be restricted from feeding/grazing of treated cover crops.
- Not currently registered for use in California.

## SUGARCANE

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Preemergence	4 pints	Apply before canes appear for control of emerged broadleaf weeds. <b>DO NOT USE IN CALIFORNIA.</b>
Postemergence	1-1/2 to 4 pints	Apply after cane emerges and through layby. <b>DO NOT USE IN CALIFORNIA.</b>

### RESTRICTIONS AND LIMITATIONS FOR USE IN SUGARCANE:

- Do not apply more than a total of 8 pints of **OPTI-AMINE®** to sugarcane per acre per crop cycle.
- Do not harvest cane prior to crop maturity.
- Pre-emergence:
  - Limited to one application per crop cycle.
  - Maximum of 4 pints per acre per application.
- Postemergence:
  - Limited to one application per crop cycle.
  - Maximum of 4 pints per acre per application.

## CONSERVATION RESERVE PROGRAM AREAS

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual broadleaf weeds In young grasses	1/2 to 1 pint	Apply to actively growing annual broadleaf weeds. Use 1/2 to 1 pint when weeds are small; use higher rates on older weeds. Do not apply to young grasses with fewer than 6 leaves or prior to tillering, as excessive injury may result.  Do not apply more than 1 pint until grasses are well established as excessive injury may result.
In established grasses	1/2 to 2 pints	
Biennial and perennial broadleaf weeds In established grasses	2 to 4 pints	Treat when biennial weeds are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage. Apply to actively growing weeds.

### RESTRICTIONS AND LIMITATIONS FOR USE ON CONSERVATION RESERVE PROGRAM AREAS:

- Use at least 2 gallons of water per acre by air and 5 gallons of water per acre by ground.
- Do not harvest or graze treated Conservation Reserve Program areas.
- Do not apply to grasses in the boot to dough stage if grass seed production is desired.

### ESTABLISHED GRASS PASTURES, RANGELAND

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual broadleaf weeds	2 pints	Apply when weeds are small and actively growing and prior to bud stage. Spray while musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks become apparent.  The lower rate can be used in the spring during rosette stage. Use the highest rate in the fall or after flower stalks have developed. Do not apply to newly planted areas until grass is well established. Do not apply to grass in the early boot through milk stage if grass seed production is desired. Bentgrass and legumes may be injured by this treatment.
Biennial and perennial broadleaf weeds	2 to 4 pints	

#### RESTRICTIONS AND LIMITATIONS FOR USE IN PASTURES AND RANGELANDS:

- Do not graze (dairy) cattle in treated areas for 7 days after application.
- Do not cut forage for hay within 30 days of application.
- Do not permit dairy animals or meat animals being finished for slaughter to forage treated fields within 3 days of slaughter.
- Postemergence:
  - Limited to 2 applications per year.
  - Maximum of 4 pints per acre per application.
  - Minimum of 30 days between applications.
  - If grass is to be cut for hay, agricultural use requirements for the worker protection standards are applicable.
  - For program lands, such as the Conservation Reserve Program, consult the program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.
- For susceptible annual and biennial broadleaf weeds, do not exceed 2 pints (1.0 lb. ae)/acre per application. For moderately susceptible biennial and perennial broadleaf weeds, do not exceed 4 pints (2.0 lbs. ae)/acre per application. For spot treatment, do not exceed 4 pints (2.0 lbs. ae)/acre.

### FALLOWLAND

(Crop stubble on idle land or postharvest to crops or between crops)

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual broadleaf weeds	1 to 2 pints	Use the lower rate when weeds are small (2 to 3 inches tall) and actively growing. Use the higher rate on older and drought-stressed plants.
Biennial broadleaf weeds	2 to 4 pints	Spray when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks become apparent. The lower rate can be used in the spring during rosette stage. Use the highest rate in the fall or after flower stalks have developed.
Perennial broadleaf weeds	2 to 6 pints	Spray weed in the bud to bloom stage or while in good vegetative growth. Do not disturb treated areas for at least 2 weeks after treatment, or until tops are dead.
Wild garlic and onion in crop stubble	4 to 6 pints	Apply to new regrowth of wild garlic or onion which occurs in the fall following harvest of small grains, corn or grain sorghum.



**RESTRICTIONS AND LIMITATIONS FOR USE IN FALLOWLAND (CROP STUBBLE ON IDLE LAND OR POST-HARVEST TO CROPS OR BETWEEN CROPS):**

- Only labeled crops can be planted within 30 days after application.
- Limited to 2 applications per year.
- Maximum of 4 pints per acre per application.
- Minimum of 30 days between applications.

**TURF GROWN FOR SEED OR SOD**

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual and perennial broadleaf weeds	2 to 4 pints	Apply to established stands in spring from tiller to early boot stage. Do not spray in boot stage. New spring seedlings may be treated with the lower rate after grass seedlings have at least 5 leaves. Perennial weed regrowth may be treated in the fall.

**RESTRICTIONS AND LIMITATIONS FOR USE ON TURF GROWN FOR SEED OR SOD:**

- Do not graze dairy animals or cut forage for hay within 7 days of application.
- Limited to 2 applications per year.
- Maximum of 4 pints per application.
- Minimum of 21 days between applications.

**NON-CROPLAND**

**Such as Fencerows, Hedgerows, Roadsides, Drainage Ditches, Rights-of-Way, Utility Power Lines, Railroads**

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE® PER ACRE	DIRECTIONS FOR USE
Annual broadleaf weeds	2 to 4 pints	Treat when weeds are young and actively growing. Perennial weeds should be near the bud stage but not flowering at application. Do not use on susceptible southern grasses such as St. Augustine. Do not apply to newly seeded areas until grass is well established. Bentgrass, clover, legumes and dichondria may be injured by this treatment.
Biennial and perennial broadleaf weeds	4 pints	
Postemergence (Woody Plants)	4 to 6 pints	To control woody plants susceptible to 2,4-D, such as alder, buckbrush, elderberry, sumac, and willow on non-crop areas, use 2 to 3 quarts of <b>OPTI-AMINE®</b> per acre in 100 gallons of water. Wet all parts of the plants thoroughly, including stem and foliage, to the point of runoff. Higher volumes of up to 400 gallons per acre are necessary where the brush is very dense and over 6 to 8 feet high. Applications are more effective when made on actively growing plants. Treatment should not be made during time of severe drought or in early Fall when leaves lose their green color. Hard-to-control species may require re-treatment next season.

*(continued)*



**RESTRICTIONS AND LIMITATIONS FOR USE ON NON-CROPLAND:**

- Postemergence (annual and perennial weeds):
  - Limited to 2 applications per year.
  - Maximum of 4 pints per acre per application.
  - Minimum of 30 days between applications.
- Postemergence (woody plants):
  - Limited to 1 application per year.
  - Maximum of 8 pints per acre per year.
- Do not graze dairy animals for 7 days following application.
- Use sufficient spray volume for thorough and uniform coverage.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

**SPOT TREATMENT IN NON-CROP AREAS**

Mix 2 to 3 fluid ounces of **OPTI-AMINE®** in 3 gallons of water. Wet all weeds and stems thoroughly. For best results, treat when weeds are actively growing.

**ORNAMENTAL TURF AREAS**

**Golf Courses, Cemeteries, Parks, Sports fields, Turfgrass, Lawns**

<b>WEEDS IN CROPS</b>	<b>AMOUNT OF OPTI-AMINE® PER ACRE</b>	<b>DIRECTIONS FOR USE</b>
Annual broadleaf weeds	2 to 3 pints	Treat when weeds are young and actively growing. Perennial weeds should be near the bud stage, but not flowering at application. Do not use on susceptible southern grasses such as St. Augustine. Do not apply to newly seeded area until grass is well established. Bentgrass, clover, legumes and dichondria may be injured by this treatment.
Biennial and perennial broadleaf weeds	3 pints	

**RESTRICTIONS AND LIMITATIONS: ORNAMENTAL TURF AREAS (Golf Courses, Cemeteries, Parks, Sports fields, Turfgrass, Lawns):**

- Postemergence (annual and perennial weeds):
  - Limited to 2 applications per year.
  - Maximum of 3 pints per acre per application.
  - Maximum seasonal rate is 100 ounces per acre, excluding spot treatments.
- Use sufficient spray volume for thorough and uniform coverage.
- Do not allow people (other than the applicator) or pets on treatment area during application.
- Do not enter treatment areas until sprays have dried.



## FORESTRY

### (Tree Injection, Poplar/Cottonwood Trees Grown For Pulp)

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE®	DIRECTIONS FOR USE
Tree Injection (For controlling Ash, Alder, Aspen, Birch, Blackgum, Cherry, Dogwood, Hickory, Maple, Oak, Sweet Gum, and Tulip Poplar)	For dilute injection: Mix 1 gallon of <b>OPTI-AMINE®</b> in 19 gallons of water.  For Concentrate Injections: Use 1 to 2 mls of concentrate <b>OPTI-AMINE®</b> per injection. The injection bit must penetrate the inner bark.	Make injections as near to the root collar as possible, using one injection per inch of trunk dbh (4–112 feet). <b>Maples should not be treated during the spring sap rise.</b> For resistant species such as hickory, injections should overlap. For best results, injections should be made during the growing season, May 15th through October 15th.
Poplar/Cottonwood Trees Grown for Pulp (broadleaf weed control)	Use 1/2 pint to 3 pints per acre.	<b>OPTI-AMINE®</b> may be applied through wick applicators or conventional ground sprayers (excluding irrigation systems). Do not allow <b>OPTI-AMINE®</b> to contact leaves or green bark of the tree. Apply in sufficient water to provide uniform coverage prior to or after planting of Poplar/Cottonwood trees. Application during warm weather is preferred. Apply when weeds are actively growing, preferably before bud stage. Repeat treatment may be necessary for less susceptible weeds; re-apply as needed. Accord® may be mixed with <b>OPTI-AMINE®</b> to increase weed control. Follow both labels to determine correct rates. Two quarts or more of a spreader such as Induce® per 100 gallons of spray solution may be added to improve herbicide performance.

#### **RESTRICTIONS AND LIMITATIONS: FORESTRY (Tree Injection, Poplar/Cottonwood Trees Grown For Pulp)**

- Injection:
  - Limit to one (1) injection application per year.
  - Maximum 2 mls of **OPTI-AMINE®** per injection site.

## WEED AND BRUSH ON IRRIGATION CANAL DITCHBANKS – Seventeen Western States:

Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wyoming.

WEEDS IN CROPS	AMOUNT OF OPTI-AMINE®	DIRECTIONS FOR USE
For control of annual and perennial broadleaf weeds	1 to 2 quarts per acre	Apply in approximately 20 to 100 gallons of total spray. Treat when weeds are young and actively growing before the bud or early bloom stage. For harder-to-control weeds, a repeat spray may be needed after 3 to 4 weeks for maximum results, using the same rates.
For woody brush and patches of perennial broadleaf weeds		Mix 4 quarts in 150 gallons of water. Wet foliage thoroughly, using approximately 1 gallon of spray solution per square rod.

### APPLICATION GUIDELINES:

**Spraying Instructions:** Low pressure (10 to 40 psi) power spray equipment should be used and mounted on a truck, tractor, or boat. Apply while traveling upstream to avoid accidental concentration of chemical into water. Spray when the air is calm, 5 mph or less. Do not use on small canals (less than 10 CFS) where water will be used for drinking purposes.

### RESTRICTIONS AND LIMITATIONS: WEED AND BRUSH ON IRRIGATION CANAL DITCHBANKS

#### • Postemergence:

- Limited to 2 applications per season.
- Maximum of 4 pints per acre per application.
- Minimum of 30 days between applications.

#### • Spot treatment permitted.

- Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. The approximate velocity needed for the calculation can be determined by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft.) by the time (sec.) to estimate velocity (ft. per sec.) Repeat 3 times and use the average to calculate CFS.

Average Width (ft.) x Average Depth (ft.) x Average Velocity (ft. per sec.) = CFS

#### • Note: For ditch bank weeds:

- Do not allow boom spray to be directed onto water surface.
- Do not spray across stream to opposite bank.
- When spraying shoreline weeds, allow no more than 2-foot overspray onto water with an average of less than one-foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

## AQUATIC WEED CONTROL

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

Fish breathe oxygen in the water and a water/oxygen ratio must be maintained. Decaying weeds use up oxygen. To avoid fish kill from decaying plant material, do not treat more than one half the lake or pond at one time. For large bodies of weed infested waters, leave buffer strips of at least 100 feet wide and delay treatment of these strips for 4 to 5 weeks or until the dead vegetation has decomposed.

**Ground or Surface Application:** Do not apply when wind speeds are at or above 10 mph.

**Air Application:** Do not apply when wind speeds are at or above 5 mph. The restrictions do not apply to subsurface applications used in weed control programs.

Delay the use of treated waters for irrigation for three weeks after treatment unless an approved assay shows that the water does not contain more than 0.1 ppm 2,4-D acid. Do not treat irrigation ditches in areas where water will be used to overhead sprinkler irrigate susceptible crops especially grapes, tomatoes and cotton.

Delay the use of treated water for domestic purposes for a period of three weeks or until such time as an approved assay shows that the water contains no more than 0.1 ppm 2,4-D acid.

**For Aquatic Weeds in Lakes, Ponds, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, and Rivers and Streams that are quiescent or slow moving:** Use 2-1/2 to 4-1/2 pints of **OPTI-AMINE®** in 50 to 100 gallons of water per acre. Spray to wet foliage thoroughly. Application should be made when leaves are fully developed above water line and plants are actively growing. Your State Conservation Department or Game and Fish Commission will assist you in determining the best time and rate for application under local conditions. Perennial and other hard-to-control weeds may require a repeat application to give adequate control.

**WATER HYACINTH (*Eichornia crassipe*):** For control of actively growing plants with surface and air applications, use 4 to 8 pints per acre. Spray the weed mass only. Use 8 pints when plants are matured or when the weed mass is dense. Repeat as necessary to kill regrowth and hyacinth plants missed in the previous application.

**Surface Application:** Use power sprayers operated with a boom or spray gun mounted on a boat, tractor, or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gals./A of spray mixture. Special precautions such as the use of low pressure, large nozzles and thickening agents should be taken to avoid spray drift in areas of sensitive crops. For **DIREC-TASPRA™** operation, use with 1 pint of drift control agent in 50 to 100 gallons of water. For other applications, follow the drift control agent label for mixing directions. **Air Application:** Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 1.0 gallon per acre through standard boom systems with a minimum of 5 gallons of spray mix per acre. For **MICROFOIL®** drift control spray systems, apply in 12 to 15 gallons spray mix per acre.

**WATER MILFOIL (*Myriophyllum spicatum*):** For Eurasian Water Milfoil in programs conducted by the Tennessee Valley Authority in dams and reservoirs of the TVA system, **OPTI-AMINE®** will control Water Milfoil with surface, subsurface and air applications.

To control water milfoil when less than 5 gallons of concentrate per acre is recommended, dilute the concentrate with water to apply a minimum of 5 gallons of spray mix per acre. Do not treat within 1/2 mile of potable water intakes. Shoreline areas should be treated by subsurface injection applied by boat to avoid aerial drift. Do not apply when weather conditions favor drift from target area.

**Open Water Areas:** To reduce contamination and prevent undue exposure to fish and other aquatic organisms, do not treat water areas that are not infested with aquatic weeds. Apply 2.5 to 10 gallons per acre. The higher rate is used in areas of greater water exchange. These areas may require a repeat application. For best results, apply in spring or early summer when milfoil starts to grow. The timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before.

**Subsurface Application:** Apply 2.5 to 10 gallons per acre as a concentrate directly into the water through boat mounted distribution systems.

**Surface Application:** Apply 2.5 to 10 gallons per acre in a minimum spray volume of 5 gallons mix per acre.

**Air Application:** Use drift control spray equipment or thickening agents mixed into the spray solution. Apply 2.5 to 10 gallons per acre through standard boom systems with a minimum of 5 gallons of spray mix per acre. For **MICROFOIL®** drift control spray systems, apply in 12 to 15 gallons spray mix per acre.

**RESTRICTIONS AND LIMITATIONS: AQUATIC USES:**

- Floating and Emergent Weeds
  - Maximum of 8 pints per surface acre per application.
  - Limited to two (2) applications per season.
  - Minimum 21 days between applications.
  - Spot treatments are permitted.
  - Apply to emergent aquatic weeds in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, non-irrigation canals, rivers, and streams 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 aquatic applications.

**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 for these sites at any time after the 2,4-D aquatic application.
  - B. 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 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 this label are to ensure that consumption of water by the public is allowed only when 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 users. 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 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:
- A setback distance from functional water intake(s) of greater than or equal to 600 ft. was used for the application, or
  - A waiting period of at least 7 days from the time of application has elapsed, or
  - 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 application of 2,4-D adjacent to water bodies with potable water intakes.
3. Except as states above, there are no restrictions on using water from treated areas for swimming, fishing, water livestock or domestic purposes.

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### **CONDITIONS OF SALE – LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

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**Read the Conditions of Sale – Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.**

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

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 shall be limited to, at Helena Chemical Company's election, one of the following:

- Refund of the purchase price paid by buyer or user for product bought, or
- Replacement of the product used

To the extent allowed by law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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— NOTES —





— NOTES —

