

# ALLIGARE 2,4-D AMINE

A SELECTIVE WEED KILLER

## Specimen Label

For control of many broadleaf weeds and brush control in corn (field, pop and sweet), sorghum (Milo), soybeans (preplant), small grains (barley, millet, oats, rye, wheat), rice, sugarcane, fallow land, grasses, stone fruits and nut orchards, brush control, pastures, rangelands, forest management and in non-crop areas such as lawns and ornamental turf, drainage ditchbanks, fence rows and rights-of-way. Also for aquatic weed control, control of trees by injection, and tank mixes.

### ACTIVE INGREDIENT:

Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid\*..... 47.2%

OTHER INGREDIENTS: ..... 52.8%

TOTAL: ..... 100.0%

Isomer Specific AOAC Method, Equivalent to:

\*2,4-Dichlorophenoxyacetic Acid 39.2%, 3.8 lbs./gal.

EPA Reg. No. 81927-38

## 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.)

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 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 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 person.</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 15-20 minutes.</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>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	

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

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER - PELIGRO

**CORROSIVE.** Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Wear protective eyewear (goggles, face shield, safety glasses), long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils or viton ≥ 14 mils.

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

- Eye protection (goggles, face shield or safety glasses)
- Long-sleeved shirt and long pants
- Shoes plus socks, plus
- Chemical-resistant gloves (except for applicators using groundboom equipment, pilots and flaggers), and
- Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See engineering controls for additional 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. After each day of use, clothing or PPE must not be reused until it has been cleaned.

### Engineering Control Statements:

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. When handlers use closed systems, enclosed cabs, or aircraft 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.

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- 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

This pesticide may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash water 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.

For Aquatic Uses: 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.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product. Use strictly in accordance with label precautionary statements and directions. Do not apply this product in a way that will contact workers, other persons, or pets, either directly or through drift. Keep people and pets out of the area during application. 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. Product should not be used in or near greenhouses.

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

### 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 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

### 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.

**Entry Restrictions for Non-WPS Uses:** When this product is applied to rangeland and established pastures not harvested for hay or seed; non-cropland areas, when applied by tree injection method only in forest sites, and when applied in aquatic areas, do not allow people (other than applicator) or pets on treatment area during application. Do not 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, temperatures, relative humidity) and method of application (e.g., ground, aerial, airblast, 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 a 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.

# 2,4-D AMINE

## 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 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 (vegetative 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.

## INFORMATION

This product is a water dilutable amine especially prepared for use on crops and weeds where a susceptible crop in the near vicinity may be injured by a more volatile product. It is recommended for control of numerous broadleaf weeds and certain 2,4-D susceptible woody plants without injury to most established grasses. In cropland, 2,4-D is more effective than amines for controlling hard-to-kill weeds such as Bindweed, Thistle, Smartweed, Wild garlic, Curly dock, Tansy ragwort, and Wild onions. For best results, apply this product as a water or oil spray during warm weather when young succulent weeds or brush are actively growing. Application under drought conditions often will give poor results. The lower recommended rates 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.

This product will kill or control the following weeds in addition to many other noxious plants susceptible to 2,4-D.

Alder	Galinsoga	Purslane
Alligator weed	Goatsbeard	Ragweed
American lotus	Goldenrod	Red clover
Arrowhead	Goosefoot	Rush
Artichoke	Ground ivy	Russian thistle
Aster	Gumweed	Sagebrush
Austrian fieldcress	Healall	St. Johnswort
Beggartick	Hemp	Salsify
Biden	Henbit	Shepherdspurse
Bindweed	Hoary cress	Sicklepod
Bittercress	Honeysuckle	Smartweed
Bitterweed	Horsetail	Sneezeweed
Bitter wintercress	Indigo	Southern wild rose
Blackeyed Susan	Indiana mallow	Sowthistle
Blessed thistle	Ironweed	Spanishneedle
Blue lettuce	Jerusalem artichoke	Spatdock
Box elder	Jewelweed	Speedwell
Broomweed	Jimsonweed	Stinging nettle
Buckhorn	Kochia	Stinkweed
Bullnettle	Knotweed	Sumac
Bull thistle	Lambsquarter	Sunflower
Bulrush	Locoweed	Sweet clover
Burdock	Lupine	Tanweed
Bur ragweed	Mallow	Tarweed
Buttercup	Many flowered aster	Thistle
Canada thistle	Marijuana	Toadflax
Carolina geranium	Marshelder	Tumbleweed
Carpetweed	Mexican weed	Velvet leaf
Catnip	Morningglory	Vervain
Chickweed	Mousetail	Vetch
Chicory	Muskthistle	Virginia copperleaf
Cinquefoil	Mustard	Virginia creeper
Cockle	Nettle	Water hyacinth
Cocklebur	Nutgrass	Water lily
Coffee bean	Orange hawkweed	Water plantain
Coffeeweed	Parrot feather	Water primrose
Common sowthistle	Parsnip	Water shield
Creeping Jenny	Pennygrass	Wild carrot
Croton	Pennywort	Wild garlic
Curly indigo	Pepperweed	Wild lettuce
Dandelion	Pigweed	Wild onion

# Specimen Label

Devil's claw	Plantain	Wild parsnip
Dock	Poison hemlock	Wild radish
Dogbane	Poison ivy	Wild rape
Duckweed	Pokeweed	Wild strawberry
Elderberry	Poorjoe	Wild sweet potato
Flea bane (daisy)	Povertyweed	Willow
Flixweed	Prickly lettuce	Witchweed
Florida pusley	Primrose	Wormseed
Frenchweed	Puncture vine	Yellow rocket

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 this product during warm weather when weeds are young and growing actively. Unless otherwise recommended, suggested application rates may be from 1 to 10 gallons of total spray by air or 5 to 25 gallons by ground application equipment. If band treatment is used, base the dosage rate on the actual area to be sprayed. Although water quantities may vary due to different types of application equipment, sufficient water must be used to provide for complete and uniform coverage. Higher water gallonage may be used if desired to improve spray coverage. In all cases, use the same recommended amount of 2,4-D per acre. When product is used for weed control in crops, the growth state of the crop must be considered. 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. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D, consult your seed company, State Agricultural Extension Service or qualified crop consultant's advice.

Aerial applications 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. Do not apply when temperature exceeds 90° F. Read and follow all directions and precautions on this label and on the labels of any products for which a tank mixture is being considered. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

**COMPATIBILITY:** If this product is to be tank mixed with fertilizers or with other pesticides, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 quart) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5 to 15 minutes after mixing.

**TO PREPARE THE SPRAY:** Mix this product only with water. Add about half the water to the mixing tank, then add this product with agitation, and finally the rest of the water with continuing agitation. Note: Adding oil, wetting agent, or other surfactant to the spray may increase effectiveness on weeds, but also may reduce selectivity to crops resulting in crop damage.

## Tip and Measure Container Dispensing Directions

1. Remove the cap from the measuring chamber and remove seal over container opening.
2. Replace the cap securely.
3. Tip the container until the measuring chamber contains the desired amount of product.
4. Return container to its level position.
5. Remove the cap from the measuring chamber and pour product into the application equipment.
6. Replace cap securely.

## SELECTIVE WEEDING IN CROPS

**USE IN LIQUID NITROGEN SOLUTIONS:** For late season application in corn, pastures, or small grains in one operation for control of Smartweed, Cocklebur, Annual morningglory and other annual broadleaf weeds less than 1 inch high. Field should be as clean as possible and corn 20 to 30 inches tall. Apply 1 pint with 80 to 120 lbs. nitrogen per acre; the spray must be prepared by first adding the required amount of liquid nitrogen solution to spray tank. Next, dilute 1 pint of this product with 2 quarts clean water for each acre to be treated with one tank-full. Start the tank agitator and slowly add the diluted 2,4-D solution. Spray immediately, maintaining continuous agitation until spray tank is empty. Direct the spray to lower 3 to 4 inches of corn stalk. Use spray equipment designated to handle corrosive liquid nitrogen solutions. After spraying, remove any remaining solution and rinse rig thoroughly with water. Mix only one tank at a time. Do not spray during or immediately following cold, near freezing weather.

## CORN (Field, Sweet and Popcorn)

Pre-plant -	1 to 2 pints
Pre-emergent - Average Conditions -	2 pints
Emergent -	1 pint
Post-emergent - Average Conditions -	1/2 to 1 pint
Dry Conditions*-	1/2 to 1 pint

Pre-harvest - 1 to 2 pints

\*For Western States- Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming

Add with specified amounts of water to make per acre applications. Use lower rates of product for easily-killed weeds, on inbreds, and when corn is growing rapidly. Do not cultivate for about 2 weeks after treatment while corn is brittle.

**Pre-plant:** Apply in 15 to 30 gallons of water per acre 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 control of less susceptible weeds or cover crops, such as alfalfa.

# 2,4-D AMINE

**Pre-emergent: (For annual grasses and broadleaf weeds)** - Apply in 15 to 30 gallons of water per acre. Apply product to emerged weeds from 3 to 5 days after planting, but before corn emerges. Do not use on very light, sandy soils. Use the higher rates on heavy soils. Plant corn as deep as practical. Product will not control weeds which have not emerged.

**Emergent** - Apply in 5 to 30 gallons of water per acre ground application, 1 to 5 gallons of water by air, just as corn plants are breaking ground.

**Post-emergent - (For broadleaf weeds)** - Apply ½ to 1 pint in 8 to 15 gallons of water per acre. Use low rates on inbreds. Best results are usually obtained when weeds have germinated and corn is 4 to 18 inches tall. As soon as corn is over 8 inches tall, or beyond the 5-leaf stage, use drop nozzles to keep spray off corn foliage as much as possible; direct spray over tops of weeds but not over the corn. Corn is susceptible to injury shortly after emergence and after unfolding of leaves. Do not spray during this period nor after first tassels appear to dough stage. If corn is growing rapidly and temperature and soil moisture is high, use ½ pint per acre to reduce possibility of crop damage. Delay cultivation for 8 to 10 days to prevent stalk breakage due to temporary brittleness caused by 2,4-D. Application rates of up to 1 pint per acre may be used to control some hard-to-control weeds. Do not use higher rates unless possible crop injury will be acceptable. After application, delay cultivation for 8 to 10 days to allow the corn to overcome any temporary brittleness. However, the possibility of injury to the corn is increased. Do not use with Atrazine, oil or other adjuvants, unless approved by seed company. Since the tolerance to 2,4-D of individual hybrids varies, consult your seed supplier, local Extension Service, Agricultural Experiment Station, or University weed specialist for information.

**Pre-harvest:** After the hard dough or denting stage, apply 1 to 2 pints in 1 to 5 gallons of water per acre by air or 5 to 30 gallons of water by ground equipment to suppress perennial weeds, decrease weed seed production, and control tall weeds such as Bindweed, Cocklebur, Dogbane, Jimsonweed, Ragweed, Sunflower, Velvetleaf and vines that interfere with harvesting. The high rate will be needed for tough weeds under stress.

## USE RESTRICTIONS FOR FIELD AND POPCORN

Do not use treated crop as fodder for 7 days following application.  
The preharvest interval (PHI) is 7 days.  
Maximum of 6 pints of product (3.0 lbs ae) per acre per crop cycle.

### Preplant or pre-emergence:

Limited to one preplant or pre-emergence application per crop cycle.  
Maximum of 2 pints of product (1.0 lb ae) per acre per application.

### Post-emergence:

Limited to one post-emergence application per crop cycle.  
Maximum of 1 pint of product (0.5 lb ae) per acre per application.

### Preharvest:

Limited to one preharvest application per crop cycle.  
Maximum of 3.16 pints of product (1.5 lbs ae) per acre per application.

## USE RESTRICTIONS FOR SWEET CORN

Do not use treated crop as fodder for 7 days following application.  
The preharvest interval (PHI) is 45 days.  
Minimum of 21 days between applications.  
Maximum of 3.16 pints of product (1.5 lbs ae) per acre per crop cycle.

### Preplant or pre-emergence:

Limited to one preplant or pre-emergence application per crop cycle.  
Maximum of 2.1 pints of product (1.0 lb ae) per acre per application.

### Post-emergence:

Limited to one post-emergence application per crop cycle.  
Maximum of 1 pint of product (0.5 lb ae) per acre per application.

## SORGHUM (Milo)

For post-emergent control in average conditions, use 2/3 to 1 pint when sorghum is 5 to 8 inches tall. Use 1 pint when sorghum is 5 to 15 inches tall with suggested volume of 5 gallons of water by air or 6 to 20 gallons with ground equipment to make per acre applications. For dry conditions (Western States), use ½ to 1 pint. Apply to sorghum when crop is 5 to 15 inches high to top of canopy with secondary roots well established. If sorghum is taller than 8 inches, use drop nozzles to keep the spray off the foliage as much as possible. Rates of up to 1 pint per acre may be used to control some hard-to-control weeds. However, the chance of crop injury is increased with higher rates. Do not use with oil. Because temporary injury may occur if conditions of high temperature and high soil moisture exist, use lower rate. If it is necessary to apply this product under these conditions, use no more than 2/3 pint per acre. Varieties vary in tolerance to 2,4-D and some hybrids are quite sensitive. Spray only varieties known to be tolerant to 2,4-D. Contact seed company or your Agricultural Experiment Station or Extension Service weed specialist for this information.

## USE RESTRICTIONS FOR SORGHUM

The 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.

### Post-emergence (acid, salts, and amines):

Limited to 1 application per crop cycle.  
Maximum of 2.1 pints of product (1.0 lb ae) per acre per application.

**Restrictions:** Corn & Sorghum Hybrids vary in tolerance to 2,4-D. Some are easily injured. Spray only varieties known to be tolerant to 2,4-D. Consult the seed company or your Agricultural Experiment Station or Extension Service Weed Specialist for this information.

# Specimen Label

## SMALL GRAINS

**Barley, Millet, Oats, Rye, Wheat not underseeded with a legume:**

Annual Weeds	Average Conditions - ½ to 1 pint Dry Conditions (Western States) - 1 to 2 pints
Perennial Weeds	Average Conditions - 1 pint Dry Conditions (Western States) - 1-1/4 to 2 pints
Pre-harvest	Average Conditions - 1 pint
Oats	Spring - ½ pint and Fall - ½ to 1 pint

For aerial applications on grain, use this product in 2 or more gallons of water per acre and for ground application, use a minimum of 10 gallons of water per acre.

Make application in the spring when the grain is fully tillered or stooled (usually about 4 to 8 inches high), but before jointing. Do not spray before the tiller stage nor from early boot to dough stage.

Use lower rate of product for easily-killed seedling weeds, and higher rate for older and more tolerant weeds. Do not treat grains underseeded with legumes, and do not spray winter grains in the fall. To control large weeds that will interfere with harvest or to suppress perennial weeds, pre-harvest treatment can be applied when grain is in the dough stage. Higher rates may be needed to handle difficult weed problems in certain areas such as under dry conditions, especially in Western areas. However, do not use unless possible crop injury will be acceptable. Oats are more sensitive to 2,4-D than other grains and should be sprayed in the spring when well established and tillered and before jointing after crop has reached the dough stage. In winter grains, use 1 to 2 pints of this product (0.5-1.0 lb ae) per acre postemergence to control large weeds that will interfere with harvest or to suppress perennial weeds. For preharvest applications, a maximum of 1 pint of this product (0.5 lb ae) may be applied per acre per application. Fall seeded oats for grain planted in Southern U.S. - apply after full tillering but before the early bud stage. Do not spray during or immediately following cold weather.

**Spring Post-emergence (under-seeded with legumes)** - Apply 1/4 to 1/2 pint per acre 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. For the high rates on Spring wheat and barley as well as Winter wheat and rye, consult State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

**Spring Seeded Oats:** Use 1/2 to 1 pint per acre with recommended amount of water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage.

**Fall Seeded Oats (Southern):** Apply 1/4-1-1/4 pints per acre with recommended amount of water after full tillering but before early boot stage. For postemergence application, some difficult weeds may require the higher rates of 1 to 1-1/4 pints per acre for maximum control but injury may result. Do not spray during or immediately following cold weather.

**Pre-harvest Treatment:** Apply 1 pint 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.

Note: Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured.

**Wheat and Barley:** Postemergence control of Wild garlic and Wild onion. For improved control of difficult weeds, including Wild garlic and Wild onion, apply 1 to 2 pints of product per acre. Since these rates may injure the crop, do not use unless possible crop damage is acceptable. For the higher rates on Spring wheat and barley, consult your local State Agricultural Experiment Station or Extension Service weed specialist for recommendations or suggestions to fit local conditions.

**Control of Wild Garlic in Stubble Grain and Corn Fields:** Following the harvest of small grains and corn, Wild garlic often produces new fall growth. This should be sprayed with 2.6 pints of product in 20 to 40 gallons of water per acre. This is a useful practice as one part of a Wild garlic control program. Do not plant any crop for three months after treatment.

**For emergency weed control in wheat: Perennial broadleaf weeds** - apply 2.6 pints per acre when weeds are approaching bud stage. Do not spray grain in the boot to dough stage. The 2.6 pint 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 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 this product to grain in the seedling stage. For aerial application on grain, apply this product in 2 to 5 gallons of water per acre. For ground application, use a minimum of 5 gallons of water per acre.

## USE RESTRICTIONS FOR CEREAL GRAINS (wheat, barley, millet, oats, and rye)

The preharvest interval (PHI) is 14 days.  
Limited to 3.6 pints of product (1.75 lbs ae) per acre per crop cycle.

### Post-emergence:

Limited to one post-emergence application per crop cycle. Maximum of 2.6 pints of product (1.25 lb ae) per acre per application.

### Preharvest:

Limited to one preharvest application per crop cycle.  
Maximum of 1 pint of product (0.5 lb ae) per acre per application.

## SUGARCANE

**Pre-emergence:** Use 4 pints of product in 15 to 20 gallons of water per acre as a blanket spray through lay-by, to aid in control of Johnsongrass seedlings and susceptible broadleaf weeds.

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**Post-emergence:** Use 1-1/2 to 2 pints in 10 to 30 gallons of water. Apply when cane is 1 to 2 feet tall.

Consult local Agricultural Experiment or Extension Service weed specialist on specific use of this product or in combination with Dalapon to control broadleaved and grass weeds.

## USE RESTRICTIONS FOR SUGARCANE

Permitted forms of 2,4-D include acid, salts and amines.  
Do not harvest cane prior to crop maturity.  
Do not apply more than one gallon of product (4.0 lbs ae) per acre per crop cycle.

## Pre-emergence:

Limited to one application per crop cycle.  
Maximum of 4 pints of product (2.0 lbs ae) per acre per application.

## Post-emergence:

Limited to one application per crop cycle.  
Maximum of 4 pints of product (2.0 lbs ae) per acre per application.

## RICE

Use 1-1/2 to 2-1/2 pints of this product in 5 to 10 gallons of water per acre to control Curly indigo and other broadleaf weeds. Apply in the late tillering stage of rice development, at the time of first joint development (first to second green ring), usually 6 to 9 weeks after emergence. Do not apply after panicle initiation, after rice internodes exceed 1/2 inch at early seeding, early panicle, boot, flowering or early heading growth stages. Do not apply nitrogen during 7 to 21 days before application of 2,4-D. Do not use in rice paddies where shellfish are of economic importance or where flood water is used for irrigation of other crops.

**NOTE:** Some rice varieties under certain conditions can be injured by 2,4-D. Therefore, before spraying consult local Extension Service or University specialists for appropriate rates and timing of 2,4-D sprays.

**RICE (In Mississippi):** Apply this product at the rate of 1-1/2 to 2 pints per acre in 5 to 10 gallons of water when rice is in the late tillering stage of development, at the time of first joint development. Do not apply after panicle, boot, or heading stages. Consult your local University or Agricultural Extension Service Specialist for more specific information on weeds controlled, application rates and application timing.

**Restrictions:** Applications of this product shall not be made to rice if commercial plantings of cotton, tomatoes, grapes or other highly susceptible crops are within 1/4 mile of the application site unless these susceptible crops are owned by the applicator or person for whom the application is being made. Air movement, air stability, and wind directions are to be determined before application by using a smoke generator or other means at or near the site of application. Avoid applications during calm conditions (less than 2 miles per hour). Do not spray when wind velocity exceeds 5 mph.

## USE RESTRICTIONS FOR RICE

The preharvest interval (PHI) is 60 days.  
Maximum of 3 pints of product (1.5 lbs ae) per acre per crop cycle.

## Preplant:

Limited to one preplant application per crop cycle.  
Maximum of 2 pints of product (1.0 lb ae) per acre per preplant application.

## Post-emergence:

Limited to one post-emergence application per crop cycle.  
Maximum of 3 pints of product (1.5 lbs ae) per acre per post-emergence application.

**CROP STUBBLE:** To control annual broadleaf weeds, apply 1 to 2 pints per acre. 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. To control biennial broadleaf weeds, apply 1 to 2 quarts per acre. 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. To control perennial broadleaf weeds such as Canada thistle and Field bindweed, apply 1 to 2 quarts per acre. Spray weeds in bud to bloom stage, or while in good vegetative growth. Do not disturb treated areas for at least 2 weeks after treatment, or until weed tops are dead. To control Wild Garlic and Onion in crop stubble, apply 2 quarts per acre to prevent new growth of garlic following harvest.

**Restriction:** Do not forage for 14 days following application. Apply to weeds actively growing.

**FALLOW LAND:** Use 2 to 4 pints of this product in a minimum of 10 gallons water per acre for ground application and minimum of 2 gallons for aerial application of water per acre on annual broadleaf weeds and up to 4 pints per acre on established perennial species such as Canada thistle and Field bindweed. Use lower rate when annual weeds are small (2 to 3 inches tall) and growing actively. Use the higher rate on older and drought-stressed plants. Spray Musk thistles and other biennial species while in seedling to rosette stage, and before flower stalks are initiated. The lower rate can be used in Spring during rosette stage. In Fall or after flower stalks have developed, use highest rate. Spray perennial weeds in bud to bloom stage, or in good vegetative growth. Do not disturb treated area for at least 2 weeks after treatment, or until weed tops are dead.

## USE RESTRICTIONS FOR FALLOW LAND (CROP STUBBLE ON IDLE LAND, OR POSTHARVEST TO CROPS, OR BETWEEN CROPS)

Plant only crops labeled for use on Alligare 2,4-D Amine within 29 days following application. Limited to 2 applications per year.  
Maximum of 4 pints of product (2.0 lbs ae) per acre per application.  
Minimum of 30 days between applications.

# Specimen Label

## GRASSES IN CONSERVATION RESERVE PROGRAM AREAS

To control annual broadleaf weeds, apply when weeds are actively growing. Use 1/2 to 1 pint per acre when weeds are small; use higher rates on older weeds. Excessive injury may result if applied to young grasses with fewer than 6 leaves or prior to grasses being well established. To control biennial and perennial broadleaf weeds in established grasses, apply at a rate of 1 to 2 quarts per acre. Apply to actively growing weeds. 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.

**Restriction:** 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.

**GRASS SEED CROPS:** Use 1 to 4 pints of product in up to 30 gallons of water per acre by air or ground equipment in spring or fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to the milk stage. Spray seedling grass only after the five leaf stage, using 3/4 to 1 pint per acre to control small seedling weeds. After the grass is well established, higher rates of up to 4 pints of product per acre can be used to control hard-to-kill annual or perennial weeds. For best results, do not use on bentgrass unless grass injury can be tolerated.

**Restrictions:** Turf grown for seed: Maximum of 4 pints of product (2.0 lbs ae) per acre per application. Limited to 2 applications per year. Minimum of 21 days between applications.

**GRASSES IN ESTABLISHED PASTURES AND RANGELANDS -** Use 1 to 4 pints of this product in 1 to 30 gallons of water per acre. Use the lower rate on more easily injured grasses. For small areas, use 3/4 to 1 fluid ounce (1-1/2 to 2 Tablespoons) per 1,000 square feet; mix 1 to 3 gallons of water and apply uniformly over the area. Apply preferably when weeds are small and growing actively before bud stage. Fall or spring is the best time to treat. Repeated treatments may be needed for less susceptible weeds. Treatment will kill or injure alfalfa, sweet clover and other legumes. White clover (including Ladino) may be injured by light application but recovers; repeated treatments will kill it. Some dichondra, bentgrasses, carpet, buffalo, and St. Augustine grasses may be injured. Usually colonial bents are more tolerant than creeping types; velvets are most easily injured. Where bentgrass predominates, make 2 applications of 1 pint per acre at 30 day intervals.

For Pasture and Rangeland: Do not apply more than 8 pints (4.0 lbs. ae) per acre per year.

## USE RESTRICTIONS FOR GRASSES IN CONSERVATION RESERVE PROGRAM AREAS

Do not cut forage for hay within 7 days of application.

## Post-emergence:

- For susceptible annual and biennial broadleaf weeds: Use 2 pints (1.0 lb. ae) per acre per application.
- For moderately susceptible biennial and perennial broadleaf weeds and for difficult to control weeds and woody plants, do not exceed 4 pints (2.0 lbs. ae) per acre per application.
- For spot treatments, do not exceed 4 pints (2.0 lbs. ae) per acre.
- The minimum retreatment interval is 30 days.
- Limited to two applications per year.

If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

For program lands, such as Conservation Reserve Program, consult 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.

**Bitterweed, Broomweed, Croton, Docks, Kochia, Marshelder, Musk thistle and Other Broadleaf Weeds:** Use 4 to 4.2 pints of this product in 10 to 30 gallons of water per acre. If weeds are young and growing actively, 2 pints per acre will provide control of some species. Deep-rooted perennial weeds may require repeated treatments in the same year or in subsequent years.

**Weed control in Newly Sprigged Coastal Bermudagrass:** Apply 2 to 4.2 pints of this product in 20 to 100 gallons of water per acre pre-emergence and/or post-emergence.

**Wild Garlic and Wild Onion Control:** Apply 4 to 4.2 pints of product per acre making three applications, fall-spring-fall or spring-fall-spring, starting in the late fall or early spring.

**Southern Wild Rose:** Use a maximum of 4.2 pints of this product plus the recommended rate of a high quality agricultural surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed.

## STONE FRUIT AND NUT ORCHARDS (Except in California)

**Stone Fruit – Crop Group 12:** Apricot, Sweet Cherry, Tart Cherry, Nectarine, Peach, Plum, Chickasaw Plum, Damson Plum, Japanese Plum, Plumcot, Prune (fresh).

**Tree Nut – Crop Group 14:** Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory Nut, Macadamia Nut (bush nut), Pecan, Black and English (Persian) Walnut.

To control annual broadleaf weeds on the orchard floor, apply 3 pints per acre 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.

**Restriction:** Do not apply (1) to bare ground as injury may result, (2) to newly established or young orchards. Trees must be at least 1 year old and in vigorous condition, (3) during bloom, (4) more than twice a year, (5) immediately before irrigation for 2 days before and 3 days after treatment. Also, do not allow spray to drift onto or contact foliage, fruit, stems, trunks of trees or exposed roots as injury may result. Do not graze or feed cover crops from treated orchards.

# 2,4-D AMINE

# Specimen Label

Pre-harvest intervals: Do not harvest stone fruit within 40 days of application nor nuts within 60 days of application.

**No-Till Application:** This product may be used in the broadcast method with a normal boom or with direct pipes set 12 inches apart in 36 inch rows. When using this product, refer to specific rate directions for the individual crop sites. Maintain uniform pressure and speed when applying.

### USE RESTRICTIONS FOR STONE FRUITS AND NUT ORCHARDS

The preharvest interval (PHI) is 60 days.  
Do not cut orchard floor forage for hay within 7 days of application.  
For filberts, apply a maximum of 2.1 pints (1.0 lb. ae) per 100 gallons of spray solution per application.

### Post-emergence:

Limited to 2 applications per crop cycle. Except pistachios – limit to two applications per year. Maximum of 4 pints of product (2.0 lbs ae) per acre per application. Minimum of 75 days between applications.

### FOR USE IN CROP RESIDUE MANAGEMENT SYSTEMS IN SOYBEANS (Preplant only)

**PRODUCT INFORMATION:** This product is a herbicide that provides control of many emerged susceptible annual and perennial broadleaf weeds. This product may be applied prior to planting soybeans to provide foliar burndown control of susceptible annual and perennial broadleaf weeds and certain broadleaf cover crops such as those listed on this label. This product should only be applied preplant to soybeans in situations such as reduced tillage production systems, where emerged weeds are present. Apply only according to the application instructions given below. Do not use any tillage operations between application of this product and planting soybeans.

**MIXING INSTRUCTIONS:** Compatible crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may increase the herbicidal effectiveness of 2,4-D on certain weeds and may be added to the spray tank. Read and follow all directions and precautions on this label and on all labels of adjuvants or fertilizers mixed with this product.

**APPLICATION PROCEDURES:** Apply using air or ground equipment in sufficient gallonage to obtain adequate coverage of weeds. Use 2 or more gallons of water per acre in aerial equipment and 10 or more gallons of water per acre in ground equipment.

### APPLICATION TIMING AND USE RATES

2,4-D Formulation Used	Maximum Rate (per acre)	When to Apply (Days prior to planting Soybeans)
Alligare 2,4-D Amine	1 pint (16.8 fl. oz.) (0.5 lb. a.e./acre)	NOT LESS THAN 15 DAYS
	2 pints (33.6 fl. oz.) (1.0 lb. a.e./acre)	NOT LESS THAN 30 DAYS

### WEEDS CONTROLLED:

Alfalfa *	Horseweed or marestalk	Ragweed-common
Bindweed*	Ironweed	Ragweed-giant
Bullnettle	Lambsquarters-common	Shepherdspurse
Bittercress-smallflowered	Lettuce-prickly	Smartweed-Pennsylvania*
Carolina geranium	Morningglory-annual	Sowthistle-annual
Cinquefoil-common and rough	Mousetail	Speedwell
Clover-red*	Mustard-wild	Thistle-Canada*
Cocklebur-common	Onion-wild*	Thistle-bull
Dandelion*	Pennycress-field	Velvetleaf
Eveningprimrose-cutleaf	Peppergrass*	Vetch-hairy*
Garlic-wild*	Purslane-common	Virginia copperleaf

\*These species are only partially controlled.

For best weed control at time of treatment, weeds should be small, actively growing and free of stress caused by extremes in climatic conditions, diseases, or insect damage. The response of individual weed species to this product is variable. Consult your local County or State Agricultural Extension Service or crop consultant for advice.

### APPLICATION RESTRICTIONS AND USE PRECAUTIONS FOR SOYBEAN

**Important Notice** - Unacceptable injury to soybeans planted in fields treated with this product may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather (temperature and rainfall) from herbicide application until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.

Do not use on low organic sandy soils (<1.0%).

Do not apply this product when weather conditions such as temperature air inversions or wind favor drift from treated areas to susceptible plants.

**Livestock Grazing Restriction:** Do not feed hay, forage or fodder. Restrict livestock from grazing treated fields. Livestock should be restricted from feeding/grazing of treated cover crops.

In fields treated with this product, plant soybean seed as deep as practical or at least 1.0 inch deep. Adjust the planter, if necessary, to ensure that planted seed is completely covered.

Do not apply this product 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 this product in the same growing season with crops other than those labeled for 2,4-D use.

For the 1 pint (0.5 lb ae) per acre per application rate, do not apply more than 2 applications per crop cycle.

For the 2 pint (1.0 lb ae) per acre per application rate, do not apply more than once per crop cycle.

The maximum rate per crop cycle is 2.1 pints of product (1.0 lb ae) per acre.

### ORNAMENTAL TURF AREAS

**Lawns (Residential, Industrial and Institutional), Parks, Cemeteries, Athletic Fields and Golf Courses (Excluding Grasses Grown for Seed or Sod Farms).**

Use 2 to 3.16 pints of product (1.0-1.5 lbs ae) per acre per application for control of annual broadleaf weeds. Use 3.16 pints of product (1.5 lbs ae) per acre per application for control of biennial and perennial broadleaf weeds. Treat when weeds are young and actively growing. Perennial weeds should be near the bud stage, but not flowering at application. Use sufficient gallonage for thorough and uniform coverage.

**SPOT TREATMENT IN ORNAMENTAL TURF AREAS (Parks, Cemeteries, Athletic Fields and Golf Courses, Turfgrass (excluding sod farms)).**

To control broadleaf weeds in small areas with a hand sprayer, use 1/4 pint of this product in 3 gallons of water and spray to thoroughly wet all foliage. Do not exceed 4 pints of this product (2.0 lbs ae) per acre.

### USE RESTRICTIONS FOR ORNAMENTAL TURF AREAS

(Golf courses, cemeteries, parks, sports fields, turfgrass, lawns and other grass areas)

### Post-emergence:

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 dichondra may be injured by this treatment. Limited to 2 applications per year. Maximum of 3.16 pints of product (1.5 lbs ae) per acre per application. The maximum seasonal rate is 6.25 pints of product (3.0 lbs ae) per acre, excluding spot treatments.

### GRASSES GROWN FOR SEED OR SOD FARMS

**Grasses Grown for Seed (Postemergence Use)**

Seedling grass (five-leaf stage or later): Apply 3/4-1 pint of product (0.36-0.5 lb ae) per acre per application.

Well-established grasses: Apply 1-4 pints of product (0.5-2.0 lbs ae) per acre per application.

**Sod Farms (Postemergence):** Apply 2.0-4.0 pints of product (1.0-2.0 lbs ae) per acre per application.

Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pint of product (0.5 lb ae) per acre. Cool season grasses are tolerant of higher rates. Do not apply to grass in the early boot through milk stage if seed production is desired. When grass is well established, higher rates of up to 4 pints of product per acre may be applied for control of hard-to-kill annual or perennial weeds.

Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod farms for 1 to 2 days before or after application. Delay irrigation until the day following application.

**Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.

### USE RESTRICTIONS FOR GRASSES GROWN FOR SEED OR SOD FARMS

Do not use on creeping grasses such as bent except as a spot treatment. Do not use on injury-sensitive southern grasses such as St. Augustinegrass. Do not use on dichondra or other herbaceous ground covers. Legumes may be damaged or killed. Do not reapply to a treated area within 21 days of a previous application. Do not graze or cut forage for hay within 7 days after application. Do not apply more than 8 pints of product (4.0 lbs ae) per acre per year. Limited to 2 applications per year.

### NON-SELECTIVE WEED CONTROL IN NON-CROPLAND AREAS

**(Airfields, Roadsides, Vacant Lots, Drainage Ditchbanks, Fencerows, Industrial Sites, Rights-of-Way, Utility Power Lines, Railroads, and similar areas)**

Use ½ gallon of product per acre. Use sufficient gallonage for thorough and uniform coverage. Apply when most annual broadleaf weeds are still young and growing vigorously. Apply when perennial and biennial weeds are actively growing and near the bud stage, but before flowering. Thoroughly wet weeds when applying this mixture. For best results on Tansy ragwort and Milk thistle, treat in rosette stage, before bolting. Treat Wild onion or garlic in early Spring and in Fall when they are young and growing actively. The addition of a wetting agent (spray adjuvant) is suggested. Usually 4 pints per acre will give adequate control. Do not use on herbaceous ground covers or creeping grass such as Bent. Legumes will usually be damaged or killed. Deep-rooted perennials such as Bindweed, Whitetop, Perennial sowthistle, Blue lettuce, Nettle, Bur ragweed, Canada thistle and other noxious perennials somewhat resistant to 2,4-D may require repeat applications to kill. Do not use on freshly seeded turf until grass is well established. Delay reseeding for 30 days.

For chemical mowing applications on roadside and utility rights-of-way, using low volume spray equipment such as the "Lucas" 64 system use ½ gallon of this product in 1 to 5 gallons of water per acre.

**Control of Southern Wild Rose:** On roadsides and fencerows, use 1/2 gallon of this product plus the recommended rate of a high quality surfactant per 100 gallons of water and spray thoroughly as soon as foliage is well developed. Two or more treatments may be required.

# 2,4-D AMINE

# Specimen Label

## USE RESTRICTIONS FOR NON-SELECTIVE WEED CONTROL IN NON-CROPLAND AREAS

(airfields, roadsides, vacant lots, drainage ditchbanks, fencerows, industrial sites, rights-of-way, utility power lines, railroads, and similar areas)

### Post-emergence (annual and perennial weeds):

Limited to 2 applications per year.  
Maximum of 4.21 pints of product (2.0 lbs ae) per acre per application.  
Minimum of 30 days between applications.

### Post-emergence (woody plants):

Limited to 1 application per year.  
Maximum of 8.25 pints of product (4.0 lbs ae) per acre per year.

**Ditchbank:** For shoreline weeds, allow no more than 2 foot overspray onto water.

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.

## BRUSH CONTROL

(Including Rights-of-Way, Fence Rows, Roadsides and along Ditchbanks)

**WOODY PLANT CONTROL:** To control woody plants susceptible to 2,4-D such as Alder, Buckbrush, Elderberry, Sumac, Cherokee rose, Japanese honeysuckle, Virginia creeper, Wild grape and Willow on non-crop areas such as rights-of-way, fence rows, roadsides and along ditchbanks. Use 2 to 3 quarts of product per acre in 30 to 100 gallons of water. Lower volume of water can be used unless applying through such equipment as a Directa-Spra, Wobbler, or Spirometer. Spray brush 5 to 8 feet tall after Spring foliage is well developed. Wet all parts of the plants thoroughly, including stem and foliage, to the point of runoff. Higher volumes of up to 300 to 500 gallons of spray per acre may be necessary where the brush is very dense and over 6 to 8 feet high. Spraying can be effective at anytime up to 3 weeks before frost as long as soil moisture is sufficient for active growth of the brush. Control will be less effective in mid-Summer during hot, dry weather when soil moisture is deficient and plants are not actively growing. A wetting agent may be added to the spray if needed for increased effectiveness. Hard-to-control species may require re-treatment next season. In general, it is better to cut tall woody plants and spray sucker growth when 2 to 4 feet tall.

**SAND SHINNERY OAK AND SAND SAGEBRUSH:** On the oak, use 2-1/4 pints of this product in 5 gallons of water per acre. Apply by aircraft between May 15 and June 15. On the sagebrush, use 2-1/4 pints in 3 gallons of water per acre and apply by aircraft when foliage is fully expanded and the brush is actively growing.

**BIG SAGEBRUSH AND RABBITBRUSH:** Use 2-1/4 to 6-3/4 pints of product per acre in 2 to 3 gallons of water. For rabbitbrush, the 6-3/4 pints rate is usually required. Brush should be leafed out and growing actively when treated. Retreatment may be needed. Chamise, Manzanita, Buckbrush, Coastal Sage, Coyotebrush and certain other Chaparral Species: Use 2-1/4 to 6-3/4 pints per acre in 5 to 10 gallons of water. Make applications by aircraft or ground equipment to obtain uniform spray coverage. For effective control, the brush must be fully leafed out and growing actively when sprayed. Retreatment may be needed. Consult State or local brush control specialists for most effective rate, volume and timing of spray application.

**CATTAILS, TULE (BULRUSH), AND OTHER RUSHES:** Mix 4 pints of this product and 100 gallons of water (1-1/2 to 2 quarts of this product in 400 to 800 gallons of spray per acre). Addition of a wetting agent may be advisable. Apply in the spring during flower head emergence. Spray to wet all foliage. Re-spray if needed when regrowth is 3 to 5 feet tall.

## USES IN FOREST MANAGEMENT

**Conifer Release:** For control of Alder, apply 1-1/2 to 2 quarts of product per acre in 8 to 25 gallons of water, and apply as a foliage spray. Treat when 3/4 of the brush foliage has attained full size leaves and before new conifer growth reaches 2 inches in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth and brush species. This may cause leader deformation on exposed firs, but they should overcome this during the second year after spraying. To control susceptible brush species such as ceanothus spp., chinquapin, madrone, manzanita, oak and tanoak and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply 3 quarts of product per acre before new growth on Douglas fir is 2 inches long.

To control manzanita and ceanothus in ponderosa pine, apply 3 quarts of this product per acre before pine growth begins in the Spring.

To increase performance, add suitable approved agricultural surfactant at recommended label rate.

After Northern conifers, Jack Pine, Red Pine, Black Spruce, and White Spruce cease growth and "harden off" (usually in mid-July), a spray of 1-1/2 to 3 quarts of product in 8 to 25 gallons of water per acre may be applied by air to control certain competing hardwood species such as Alder, Aspen, Birch, and Willow. Since this treatment may cause occasional conifer injury, do not use if such injury cannot be tolerated. Consult your regional or extension forester or State herbicide specialist for recommendations to fit local conditions.

**Tree Injections (Pine Release):** To control hardwoods, such as Oaks, Hickory, Maple, Pecan, Elm, Sumac, Sweetgum and Hawthorn in forest and other non-crop areas, apply undiluted product in a concentrate tree injector calibrated to apply 1 to 2 ml per injection. Space injections 2 inches apart edge to edge, completely around the tree and close to the base. The injector bit must penetrate the inner bark. On hard-to-kill species such as Hickory, Dogwood, Red Maple, Blue Beech and Ash, make injections 1 to 1-1/2 inches apart edge to edge. Treatment may be made at any time of the year. For best results, injections should be made during growing season, May 15 to October 15. For dilute injections, mix 1 gallon of this product in 19 gallons of water.

**Dormant Application (other than pine):** For the control of susceptible deciduous brush species such as Alder, Cascara, Cherry, Poplar and Service Berry, apply up to 3 quarts of product per acre in sufficient diesel, fuel oil or kerosene for good coverage. Application may be made by ground or air and should be made before conifer bud break.

**Pine Only:** Make application while pine buds are still dormant. Apply 2 quarts of product per acre in sufficient water for good coverage by air or ground equipment. Do not use this application unless some pine injury is acceptable. Use of diesel, kerosene, or other oil, or addition of surfactants to spray mix may cause unacceptable pine injury.

**Herbaceous Weed Control:** To control over-wintering susceptible weeds such as False dandelion, Klamath weed, Plantain, Tansy ragwort, apply 1 to 3 quarts of product in sufficient water for good coverage. Make application at rates and timing indicated above if pines are present. For control of hazel brush and similar species in the Lake States area, apply 2 quarts of product per acre in 8 to 25 gallons of water, when new shoot growth of Hazel is complete (usually mid-July).

**Site Preparation: (As Budbreak Spray) -** For control of Alder prior to planting seedlings, apply 2 to 4 quarts of product per acre in 8 to 25 gallons of water, after Alder budbreak but before foliage is 1/4 full size. Application may be made by air or ground. **(As Foliage Spray) -** For control of Alder prior to planting seedlings, apply 2 quarts of product per acre in 8 to 25 gallons of water, after most Alder leaves are full size. To increase penetration, a suitable approved agricultural surfactant at recommended label rates, may be added to spray mixture.

**POPLAR/COTTONWOOD TREES GROWN FOR PULP IN OREGON AND WASHINGTON - BROADLEAF WEED CONTROL:** This product may be applied through wick applicators or conventional ground sprayers. NOTE: WHEN IRRIGATING WITH OVERHEAD SPRINKLERS, DO NOT APPLY THIS PRODUCT BEFORE AN IRRIGATION AND WITHHOLD IRRIGATION FOR 2 DAYS BEFORE AND 3 DAYS AFTER TREATMENT. Do not allow this product to contact leaves or green bark of the tree. Use 1/2 pint to 3 pints per acre in enough 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. Alligare Glyphosate 4 Plus may be mixed with this product to increase weed control. Follow both labels to determine correct rates. Two quarts or more of Wilbur-Ellis R-11 Spreader Activator per 100 gallons of spray solution may be added to improve herbicide performance.

## USE RESTRICTIONS FOR FOREST MANAGEMENT

### Broadcast application:

Limited to 1 broadcast application per year.  
Maximum of 8.25 pints of product (4.0 lbs ae) per acre per broadcast application.

### Basal spray, Cut Surface - Stumps, and Frill:

Limit of one basal spray or cut surface application per year.  
Maximum of 2 gallons per 100 gallons of spray solution.

### Injection:

Limit to one injection application per year.  
Maximum of 2 mL of 4.0 lbs ae formulation per injection site.

## AQUATIC USES

**Use Requirements for Aquatic Areas:** When this product is applied to aquatic areas, follow PPE and reentry instructions in the "Non-Agricultural Use Requirements" section of this label.

## CONTROL OF WEEDS AND BRUSH ON BANKS OF IRRIGATION CANALS AND DITCHES

Target Plants	Alligare 2,4-D Amine (pts./acre)	Specific Use Directions
Annual Weeds	2 to 4	Apply using low pressure spray (10 to 40 psi) in a spray volume of 20 to 100 gallons per acre using power operated spray equipment. Apply when wind speed is low, 5 mph or less. Apply working upstream to avoid accidental concentration of spray into water. Cross-stream spraying to opposite banks is not permitted and avoid boom spraying over water surface. When spraying shoreline weeds, allow no more than 2 foot overspray onto water surface with an average of less than 1 foot of overspray to prevent significant water contamination.  Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette state and before stalks appear. For hard-to-control weeds, a repeat application after 30 days at the same rate may be needed.  For woody species and patches of perennial weeds, mix 1 gallon of this product per 64 to 150 gallons of total spray. Wet foliage by applying about 3 to 4 gallons of spray per 1000 sq. ft. (10.5 x 10.5 steps).
Biennial and perennial broadleaf weeds and susceptible wood plants	4	

### Restrictions and Limitations:

- Do not apply more than 2 treatments per season or reapply within 30 days.
- Use 2 or more gallons of spray solution per acre.
- Do not apply more than 4.21 pts./acre (2.0 lbs. of acid equivalent) per application or more than 8.42 pts./acre (4.0 lbs. of acid equivalent) per use season.

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.

$$\frac{\text{Average Width (ft.)} \times \text{Average Depth (ft.)}}{\text{Average Velocity (ft. per sec.)}} = \text{CFS}$$

**For ditchbank weeds:** Do not spray cross-stream to opposite bank. Do not allow boom spray to be directed onto water.

# 2,4-D AMINE

# Specimen Label

**For shoreline weeds:** Boom spraying onto water surface must be held to a minimum and allow no more than 2 foot overspray onto water with an average of less than 1 foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

**AQUATIC WEED CONTROL IN PONDS, LAKES, RESERVOIRS, MARSHES, BAYOUS, DRAINAGE DITCHES, NON-IRRIGATION 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 aquatic applications.

**EMERGENT AND FLOATING AQUATIC WEEDS:  
Including Water Hyacinth (*Eichornia crassipe*)**

**Application Rate:** 2 to 4 qts./acre.

**SPECIFIC USE DIRECTIONS**

**Application Timing:** Spray weed mass only. Apply when water hyacinth plants are actively growing. Repeat application as necessary to kill regrowth and plants missed in previous operation. Use 4 qts./acre rate when plants are mature or when weed mass is dense.

**Surface Application:** Use power operated sprayers with boom or spray gun mounted on boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gallons of spray mixture per acre. Special precautions such as use of low pressure, large nozzles and spray thickening agents should be taken to avoid spray drift to susceptible crops. Follow label directions for use of any drift control agent.

**Aerial Application:** Use drift control spray equipment or thickening agent mixed in the spray mixture. Apply 1 gallon of this product per acre using standard boom systems using a minimum spray volume of 5 gallons per acre. For Microfoil drift control spray systems, apply this product in a total spray volume of 12 to 15 gallons per acre.

**Restrictions and Limitations for Surface Applications to Emergent Aquatic Weeds**

- Do not exceed 8.42 pts./acre (4.0 lbs. of acid equivalent) per surface acre per use season.
- Do not make broadcast application within 21 days of previous broadcast application. Spot treatments are permitted.

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. Waters having limited and less dense weed infestations may not require partial treatments. Other local factors such as water exchange and sediment load can also influence the dissolved oxygen level. 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 anytime 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 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 this 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 user. 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.

3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

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

**SUBMERGED AQUATIC WEEDS:  
Including Eurasian Water Milfoil (*Myriophyllum spicatum*)**

Treatment Site	Maximum Application Rate*	Specific Use Directions
Aquatic Weed Control In: Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Non-Irrigation Canals, Rivers and Streams that are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority	2.84 gallons (10.8 lbs. of acid equivalent) per acre foot	<p><b>Application Timing:</b> 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.</p> <p><b>Subsurface Application:</b> Apply this product 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.</p> <p><b>Surface Application:</b> 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.</p> <p><b>Aerial Application:</b> Use drift control spray equipment or thickening agents mixed with spray to reduce drift. Apply through standard boom systems in a minimum spray volume of 5 gallons per surface acre. For Milfoil drift control spray systems, apply this product in a total spray volume of 12 to 15 gallons per acre.</p> <p>Apply to attain a concentration of 2 to 4 ppm (see table below).</p>

\*Alligare 2,4-D Amine contains 3.8 lbs. of acid equivalent per gallon of product.

**Table 1. Amount of 2,4-D to Apply for a Target Subsurface Concentration**

Surface Area	Average Depth	For typical conditions - 2 ppm (2,4-D ae/acre)	For typical conditions - 2 ppm (Alligare 2,4-D Amine gal/acre)	For difficult conditions* - 4 ppm (2,4-D ae/acre)	For difficult conditions* - 4 ppm (Alligare 2,4-D Amine gal/acre)
1 acre	1 ft.	5.4	1.42	10.8	2.84
	2 ft.	10.8	2.84	21.6	5.68
	3 ft.	16.2	4.26	32.4	8.52
	4 ft.	21.6	5.68	43.2	11.37
	5 ft.	27.0	7.10	54.0	14.21

\*Examples include spot treatment of pioneer colonies of Eurasian Water Milfoil and certain difficult to control aquatic species.

**Restrictions and Limitations for Aquatic Sites with Submersed Weeds**  
Do not exceed 10.8 lbs. acid equivalent per acre foot.

Fish breathe oxygen in the water and a water-oxygen ratio must be maintained. Decaying weeds use up oxygen, but during the period when applications should be made, the weed mass is fairly sparse and the weed decomposition rate is slow enough that the water-oxygen ratio is not disturbed by treating the entire area at one time. If treatments must be applied later in the season when the weed mass is dense and repeat treatments are needed, apply product in lanes, leaving buffer strips which can then be treated when vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment.

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

**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

# 2,4-D AMINE

# Specimen Label

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 anytime after the 2,4-D aquatic application.

- B. Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable:
- If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, noncrop areas or other plants 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 described in the Drinking Water Setback Table was used for the application, or,
    - ii. A waiting period of 21 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. See Table 3 for the waiting period after application but before taking the 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 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 submersed weed applications, the drinking water setback distance from functioning potable water intakes are provided in Table 2. Drinking Water Setback Distance.
- C. If no setback distance from the Drinking Water Setback Table (Table 2) is used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. 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 no sooner than stated in Table 3 shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.

**Text of notification:** Wait 21 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 no sooner than (insert days from Table 3) 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 described in the Drinking Water Setback Distance Table was used for the application, or,
  - ii. A waiting period of at least 21 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 stated in Table 3. 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.

3. Except as stated above, there are no restrictions on using water from treated areas for swimming, fishing, watering livestock or domestic purposes.

Table 2. Drinking Water Setback Distance for Submersed Weed Application

Application Rate and Minimum Setback Distance (feet) from Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
600	1200	1800	2400

\*ppm acid equivalent target water concentration

Table 3. Sampling for Drinking Water Analysis After 2,4-D Application for Submersed Weed Applications

Minimum Days After Application Before Initial Water Sampling at the Functioning Potable Water Intake			
1 ppm*	2 ppm*	3 ppm*	4 ppm*
5	10	10	14

\*ppm acid equivalent target water concentration

### TANK MIXES

Read and follow the manufacturer's label requirements of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions. If these requirements conflict with this product's label, do not use as a tank mix with this product. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and

precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Always store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. If allowed to freeze, warm to 40°F and remix thoroughly before using. This does not alter this product. Open containers in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard boxes more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate ground water. 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 CONTAINERS:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Nonrefillable container ≤ 5 gallons:** 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 ¼ 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 in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Nonrefillable > 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**REFILLABLE CONTAINERS:** Refillable container. Refill this container with pesticide 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Local conditions may affect the uses of this chemical as shown on this label. Consult State Experiment Station or Extension Service weed specialists for specific recommendations for local weed problems and for information on possible lower dosages. Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition, et al. v. EPA, C0132C, (W.D. WA). For further information, please refer to EPA Web Site: <http://www.epa.gov/espp>.

### LIMITED WARRANTY, TERMS OF SALE, AND LIMITATION OF LIABILITY

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. 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, and any such claims are hereby waived. 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.

EPA 20150918



# SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)



## 1. IDENTIFICATION

**PRODUCT NAME:** Alligare 2,4-D Amine

**DESCRIPTION:** A liquid herbicide.

**EPA Reg. No.:** 81927-38

**COMPANY IDENTIFICATION:**

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

## 2. HAZARD IDENTIFICATION

### DANGER

Causes severe eye damage (H318)  
Harmful if swallowed or inhaled (H302+H332)  
Very toxic to aquatic life (H400)



### HAZARD CLASSIFICATION

**Health Hazards**

Eye damage / irritation  
Acute toxicity, oral  
Acute toxicity, inhalation

**Category**  
1  
4  
4

**Physical Hazards**

None

**Category**  
-

**Other Hazards**

Hazardous to the aquatic environment, acute

**Category**  
1

### HAZARDS NOT REQUIRING CLASSIFICATION

None known.

### PRECAUTIONARY STATEMENTS

Wear eye or face protection in accordance with the product label. Avoid breathing mists or spray. Use only outdoors or in a well-ventilated area in accordance with the product label. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. (P280+P261+P271+P264+P270)

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor for treatment. (P305+P351+P338+P310)

**IF SWALLOWED:** Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Refer to Section 4 (FIRST AID) for additional information for physicians. (P301+P312+P330)

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. (P304+P340+P312)

Avoid release to the environment in a manner not in accordance with the product label. Collect spillage. (P273+P391)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Common Name</u>	<u>Chemical Name</u>	<u>CAS #</u>	<u>Composition</u>
2,4-D Amine	Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	2008-39-1	47.2%

#### 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment information.

**IF IN EYES:** Hold eye 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 eye. Immediately call a doctor or poison control center.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a doctor or poison control center if you feel unwell.

**IF SWALLOWED:** Immediately call a poison control center or doctor. Rinse mouth out and have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

#### 5. FIREFIGHTING MEASURES

**Flash point (PMA-4):** N/A

**Flammable Limits (LFL-UFL):** N/A

**Fire and Explosion Hazards:** Not a fire or explosion hazard.

**Extinguishing Medium:** Water spray, foam, dry chemical or carbon dioxide (CO<sub>2</sub>).

**Fire Fighting Equipment:** Firefighters should be equipped with self-contained positive pressure breathing apparatus and full bunker gear.

**Fire Fighting Instructions:** Evacuate nonessential personnel to prevent exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Dike and collect any runoff to prevent entry to drains or water bodies.

**Hazardous Combustion Products:** Thermal decomposition may produce toxic gasses such as hydrogen chloride and oxides of carbon and nitrogen.

**NFPA Ratings:** Health – 3 / Flammability – 1 / Reactivity - 0

#### 6. ACCIDENTAL RELEASE MEASURES

Clean up spills immediately observing the precautions in Section 8 of this SDS. Control spill at the source and prevent material from entering soil, sewers, waterways or low areas. If necessary, dike spill using absorbent or impervious materials such as clay or sand. Recover materials for reuse or disposal by pumping any free liquid into appropriate closed containers, do not flush to drain.

Large spills to soil may require removal of topsoil with the affected area removed and placed into appropriate containers for disposal. Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

#### 7. HANDLING AND STORAGE

Keep out of reach of children. Do not get in eyes or on clothing, avoid contact with skin and avoid inhaling vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Always store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. Open containers in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard boxes more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Handle only with adequate ventilation. Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

**Protective Clothing:** Wear long sleeved shirt, long pants, shoes, socks, and chemical resistant gloves and a face shield or goggles. When mixing, loading or cleaning up spills or equipment or otherwise exposed to concentrate, wear a chemical-resistant apron.

**General:** Wash clothing and other absorbent materials that have been exposed to this product. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Clear pale yellow liquid

**Odor:** Phenolic-amine

**pH:** 8.9 – 9.1

**Density:** 9.7 lbs/gal

**Solubility:** Soluble

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Excessive heat. Do not store near heat or flame.

**CHEMICAL STABILITY:** Stable under all normal use and storage conditions.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May release toxic gasses when thermally decomposed.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Strong oxidizing agents, bases and acids.

**POLYMERIZATION:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**ORAL TOXICITY (rat LD<sub>50</sub>):** 1,161 mg/kg

**DERMAL TOXICITY (rat LD<sub>50</sub>):** > 5,000 mg/kg

**INHALATION TOXICITY (rat LC<sub>50</sub>):** > 3.5 mg/L (4-hour)

**EYE IRRITATION:** Rabbit – Severely irritating / corrosive

**SKIN IRRITATION:** Rabbit – Slightly irritating

**SKIN SENSITIZATION:** Not sensitizing

**CARCINOGENICITY:**

**EPA:** Not Listed

**ACGIH:** Not Listed

**NTP:** Not Listed

**IARC:** Class 2B (chlorophenoxy herbicides)

**OSHA:** Not Listed

**MUTAGENIC TOXICITY:** No evidence of mutagenic effects during *in vivo* and *in vitro* assays.

**REPRODUCTIVE TOXICITY:** No evidence in animal studies.

## 12. ECOLOGICAL INFORMATION

This pesticide may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants.

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.

**The following is for the active ingredient, 2,4-D Amine:**

**AQUATIC TOXICITY**

Bluegill (96-hr LC<sub>50</sub>): 524 mg/L

Rainbow Trout (96-hr LC<sub>50</sub>): 250 mg/L

Daphnia (48-hr EC<sub>50</sub>): 184 mg/L

Duckweed *Lemna minor* (EbC<sub>50</sub>): 0.58 mg/L

**AVIAN TOXICITY**

Bobwhite Quail (Oral LD<sub>50</sub>): 500 mg/kg

Mallard Duck (8-day Dietary LC<sub>50</sub>): > 5,620 ppm

### 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate ground water. 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 container. Do not reuse or refill this container. Refer to the product label for specific container handling instructions.

### 14. TRANSPORT INFORMATION

**UN Number:** UN3082  
**Proper Shipping Name:** Environmentally hazardous substance, liquid, N.O.S. (contains 2,4-D acid)  
**Transport Hazard Class:** 9  
**Packing Group:** III  
**Hazard Zone:** A  
**Marine Pollutant:** Yes<sup>†</sup>  
**Hazardous Substance RQ:** 100 lbs. (26.4 gallons / 100L of product)  
**Labels / Placards:** US-DOT: Class 9 Environmentally Hazardous Substance<sup>‡</sup>  
IMDG, IATA: Class 9 Environmentally Hazardous Substance  
**Emergency Guide:** 171 (NAERG – North American Emergency Response Guide)  
**†Marine Pollutant Note:** Ground-only shipments of this product are excluded from Marine Pollutant labeling requirements as per 49CFR172.101 Appendix B(4).  
For any shipments involving all or part of the transport by vessel, the shipment must be classified as a Marine Pollutant unless a limited quantity exemption applies.  
**‡US-DOT Note:** Not regulated for “ground only” shipments in containers ≤ 26.4 gal. / 100L.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

### FIFRA –

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the pesticide label:

#### PRECAUTIONARY STATEMENTS

##### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER: Corrosive.** Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Wear protective eyewear (goggles, face shield, safety glasses), long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves (such as those listed in selection A on the EPA chemical-resistance category selection chart).

See inside label booklet for additional Precautionary Statements and Directions for Use including Storage and Disposal instructions.

##### ENVIRONMENTAL HAZARDS

This pesticide may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash water 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.

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA.

#### SARA Title III – Section 302 Extremely Hazardous Substances

Not listed

#### SARA Title III – Section 311/312 Hazard Categories

Immediate, Delayed

#### SARA Title III – Section 312 Threshold Planning Quantity

N/A

#### SARA Title III – Section 313 Reportable Ingredients

2,4-Dichlorophenoxyacetic Acetic Acid (CAS No. 94-75-7): 47.2%

#### CERCLA –

2,4-Dichlorophenoxyacetic Acetic Acid (CAS No. 94-75-7): 100 lbs. (26.3 gallons of product)

#### CALIFORNIA P65 STATUS –

This product does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

#### CANADA –

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## 16. OTHER INFORMATION

THIS INFORMATION IN THIS SDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT ALLIGARE, LLC TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS. JUDGMENTS AS TO THE SUITABILITY OF THE INFORMATION HEREIN FOR THE INDIVIDUAL'S OWN USE OR PURPOSES IS NECESSARILY THE INDIVIDUAL'S OWN RESPONSIBILITY. ALTHOUGH REASONABLE CARE HAS BEEN TAKEN IN THE PREPARATION OF SUCH INFORMATION, ALLIGARE, LLC EXTENDS NO WARRANTIES, MAKES NO REPRESENTATIONS, AND ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR SUITABILITY OF SUCH INFORMATION FOR APPLICATION TO THE INDIVIDUAL'S PURPOSES OR THE CONSEQUENCES OF ITS USE.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

SDS Version: 4.0

Effective Date: 03/23/18

# SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)



## 1. IDENTIFICATION

**PRODUCT NAME:** Alligare 2,4-D Amine

**DESCRIPTION:** A liquid herbicide.

**EPA Reg. No.:** 81927-38

**COMPANY IDENTIFICATION:**

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

## 2. HAZARD IDENTIFICATION

### DANGER

Causes severe eye damage (H318)  
Harmful if swallowed or inhaled (H302+H332)  
Very toxic to aquatic life (H400)



### HAZARD CLASSIFICATION

**Health Hazards**

Eye damage / irritation  
Acute toxicity, oral  
Acute toxicity, inhalation

**Category**  
1  
4  
4

**Physical Hazards**

None

**Category**  
-

**Other Hazards**

Hazardous to the aquatic environment, acute

**Category**  
1

### HAZARDS NOT REQUIRING CLASSIFICATION

None known.

### PRECAUTIONARY STATEMENTS

Wear eye or face protection in accordance with the product label. Avoid breathing mists or spray. Use only outdoors or in a well-ventilated area in accordance with the product label. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. (P280+P261+P271+P264+P270)

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor for treatment. (P305+P351+P338+P310)

**IF SWALLOWED:** Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. Refer to Section 4 (FIRST AID) for additional information for physicians. (P301+P312+P330)

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. (P304+P340+P312)

Avoid release to the environment in a manner not in accordance with the product label. Collect spillage. (P273+P391)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Common Name</u>	<u>Chemical Name</u>	<u>CAS #</u>	<u>Composition</u>
2,4-D Amine	Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	2008-39-1	47.2%

#### 4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment information.

**IF IN EYES:** Hold eye 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 eye. Immediately call a doctor or poison control center.

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a doctor or poison control center if you feel unwell.

**IF SWALLOWED:** Immediately call a poison control center or doctor. Rinse mouth out and have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

#### 5. FIREFIGHTING MEASURES

**Flash point (PMA-4):** N/A

**Flammable Limits (LFL-UFL):** N/A

**Fire and Explosion Hazards:** Not a fire or explosion hazard.

**Extinguishing Medium:** Water spray, foam, dry chemical or carbon dioxide (CO<sub>2</sub>).

**Fire Fighting Equipment:** Firefighters should be equipped with self-contained positive pressure breathing apparatus and full bunker gear.

**Fire Fighting Instructions:** Evacuate nonessential personnel to prevent exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Dike and collect any runoff to prevent entry to drains or water bodies.

**Hazardous Combustion Products:** Thermal decomposition may produce toxic gasses such as hydrogen chloride and oxides of carbon and nitrogen.

**NFPA Ratings:** Health – 3 / Flammability – 1 / Reactivity - 0

#### 6. ACCIDENTAL RELEASE MEASURES

Clean up spills immediately observing the precautions in Section 8 of this SDS. Control spill at the source and prevent material from entering soil, sewers, waterways or low areas. If necessary, dike spill using absorbent or impervious materials such as clay or sand. Recover materials for reuse or disposal by pumping any free liquid into appropriate closed containers, do not flush to drain.

Large spills to soil may require removal of topsoil with the affected area removed and placed into appropriate containers for disposal. Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

#### 7. HANDLING AND STORAGE

Keep out of reach of children. Do not get in eyes or on clothing, avoid contact with skin and avoid inhaling vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Always store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. Open containers in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard boxes more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.



## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Handle only with adequate ventilation. Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

**Protective Clothing:** Wear long sleeved shirt, long pants, shoes, socks, and chemical resistant gloves and a face shield or goggles. When mixing, loading or cleaning up spills or equipment or otherwise exposed to concentrate, wear a chemical-resistant apron.

**General:** Wash clothing and other absorbent materials that have been exposed to this product. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Clear pale yellow liquid

**Odor:** Phenolic-amine

**pH:** 8.9 – 9.1

**Density:** 9.7 lbs/gal

**Solubility:** Soluble

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Excessive heat. Do not store near heat or flame.

**CHEMICAL STABILITY:** Stable under all normal use and storage conditions.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May release toxic gasses when thermally decomposed.

**INCOMPATIBILITY WITH OTHER MATERIALS:** Strong oxidizing agents, bases and acids.

**POLYMERIZATION:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**ORAL TOXICITY (rat LD<sub>50</sub>):** 1,161 mg/kg

**DERMAL TOXICITY (rat LD<sub>50</sub>):** > 5,000 mg/kg

**INHALATION TOXICITY (rat LC<sub>50</sub>):** > 3.5 mg/L (4-hour)

**EYE IRRITATION:** Rabbit – Severely irritating / corrosive

**SKIN IRRITATION:** Rabbit – Slightly irritating

**SKIN SENSITIZATION:** Not sensitizing

**CARCINOGENICITY:**

**EPA:** Not Listed

**ACGIH:** Not Listed

**IARC:** Class 2B (chlorophenoxy herbicides)

**NTP:** Not Listed

**OSHA:** Not Listed

**MUTAGENIC TOXICITY:** No evidence of mutagenic effects during *in vivo* and *in vitro* assays.

**REPRODUCTIVE TOXICITY:** No evidence in animal studies.

## 12. ECOLOGICAL INFORMATION

This pesticide may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants.

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.

**The following is for the active ingredient, 2,4-D Amine:**

**AQUATIC TOXICITY**

Bluegill (96-hr LC<sub>50</sub>): 524 mg/L

Daphnia (48-hr EC<sub>50</sub>): 184 mg/L

Rainbow Trout (96-hr LC<sub>50</sub>): 250 mg/L

Duckweed *Lemna minor* (EbC<sub>50</sub>): 0.58 mg/L

**AVIAN TOXICITY**

Bobwhite Quail (Oral LD<sub>50</sub>): 500 mg/kg

Mallard Duck (8-day Dietary LC<sub>50</sub>): > 5,620 ppm

### 13. DISPOSAL CONSIDERATIONS

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate ground water. 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 container. Do not reuse or refill this container. Refer to the product label for specific container handling instructions.

### 14. TRANSPORT INFORMATION

<b>UN Number:</b>	UN3082
<b>Proper Shipping Name:</b>	Environmentally hazardous substance, liquid, N.O.S. (contains 2,4-D acid)
<b>Transport Hazard Class:</b>	9
<b>Packing Group:</b>	III
<b>Hazard Zone:</b>	A
<b>Marine Pollutant:</b>	Yes†
<b>Hazardous Substance RQ:</b>	100 lbs. (26.4 gallons / 100L of product)
<b>Labels / Placards:</b>	US-DOT: Class 9 Environmentally Hazardous Substance‡ IMDG, IATA: Class 9 Environmentally Hazardous Substance
<b>Emergency Guide:</b>	171 (NAERG – North American Emergency Response Guide)
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### SARA Title III – Section 312 Threshold Planning Quantity

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### SARA Title III – Section 313 Reportable Ingredients

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### CERCLA –

2,4-Dichlorophenoxyacetic Acetic Acid (CAS No. 94-75-7): 100 lbs. (26.3 gallons of product)

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### CANADA –

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