

**Agri Star™**  
By Albaugh Inc.

**SPECIMEN  
LABEL**

**CONTAINS  
NO SOLVENT**

# SOLVE™ 2,4-D

**LOW VOLATILE ESTER HERBICIDE**

Manufactured by:

**ALBAUGH, INC.**  
Ankeny, Iowa 50021

**FOR CHEMICAL SPILL, LEAK,  
FIRE, OR EXPOSURE, CALL  
CHEMTREC (800) 424-9300**

4015AL  
AD022003

**ACTIVE INGREDIENT:**

2-ethylhexyl ester of 2,4-dichlorophenoxyacetic acid\* ..... 61.74%

**OTHER INGREDIENTS:** ..... 38.26%

**TOTAL:** ..... 100.00%

\*Equivalent to 40.9% of 2,4 isomer of 2,4-D or not less than 3.76 pounds of the 2,4 isomer of 2,4-D per gallon.

EPA Reg. No. 42750-22

EPA Est. No. 42750-MO-1

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**FIRST AID**

**If swallowed:**

- Call a poison control center or doctor immediately for treatment advice.
- 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.

**If on skin or clothing:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

**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.
- Call a poison control center or doctor for treatment advice.

**HOTLINE 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.

See inside booklet for additional Precautionary Statements.

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

### **CAUTION**

Causes eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### **PERSONAL PROTECTIVE EQUIPMENT**

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

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical resistant gloves Category A, such as butyl rubber ≥ 14 mils, or natural rubber ≥ 14 mils, or neoprene rubber ≥ 14 mils or nitrile rubber ≥ 14 mils, shoes plus socks, protective eyewear, and chemical-resistant apron when cleaning equipment, mixing, or loading.

If this container contains over 1 gallon and less than 5 gallons, mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, 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 CONTROLS STATEMENTS**

If this container contains 5 gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use 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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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 product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

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

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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 12 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 Category A, such as butyl rubber  $\geq$  14 mils, or natural rubber  $\geq$  14 mils, or neoprene rubber  $\geq$  14 mils or nitrile rubber  $\geq$  14 mils, shoes plus socks, and protective eyewear.

### NON-AGRICULTURAL USE REQUIREMENTS

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

Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment areas until spray has dried.

### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Open dumping is prohibited. Do not store this product near fertilizers, seeds, insecticides or fungicides. Do not store near heat or open flame. Re-close all partially used containers by thoroughly tightening screw cap. Absorb any spill with a suitable clay absorbent and dispose of as indicated under "Pesticide Disposal."

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

#### CONTAINER DISPOSAL:

**PLASTIC CONTAINERS** – Triple rinse (or equivalent) adding rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**METAL CONTAINERS** – Triple rinse (or equivalent) adding rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**REFILLABLE CONTAINERS** – If this container has been designated by the supplier as refillable, return empty container to the place of purchase.

## GENERAL INFORMATION

Performance of SOLVE™ 2,4-D may be affected by local conditions, crop varieties, and application method. User should consult local extension service, agricultural experiment or university weed specialists, and state regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than recommended will be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, the higher recommended rates should be used. When SOLVE™ 2,4-D is used for weed control in crops, the growth stage of the crop must be considered.

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

Aerial application should be used only when there is no danger of drift to susceptible crops. Many states have regulations concerning aerial application of 2,4-D formulations. Consult local regulatory authorities before making applications. Although SOLVE™ 2,4-D is a low volatile formulation, at temperatures above 90°F vapors may damage susceptible plants nearby.

Product should not be allowed to come into contact with desirable susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes, and other vegetables. Product should not be used in greenhouses. Excessive amounts of 2,4-D in the soil may temporarily inhibit seed germination and all plant growth.

Users should note that herbicide treatment of public water requires a permit from appropriate state agencies in most states. Your state Conservation Department, or Game and Fish Commission will aid you in securing a permit in your state. If stored below freezing, warm this product to 40°F and agitate before using. This does not affect the efficiency of the product.

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

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

**USE IN LIQUID NITROGEN FERTILIZER:** SOLVE™ 2,4-D is specially formulated to be combined with liquid nitrogen fertilizer suitable for foliar application on corn, grass, pastures, or small grains in one operation. Use SOLVE™ 2,4-D according to directions on this label for those crops. Use liquid fertilizer at rates recommended by supplier or extension service specialist. Mix SOLVE™ 2,4-D and fertilizer according to the following instructions:

Fill the spray tank approximately 1/2 full with the liquid fertilizer. Add SOLVE™ 2,4-D while agitating the tank. Add the remainder of the liquid fertilizer while continuing to agitate. Application should be made immediately, maintaining agitation until tank is empty. **DO NOT APPLY DURING COLD (NEAR FREEZING) WEATHER.** Spray mixture may not be stored.

## AERIAL SPRAY DRIFT MANAGEMENT

### Spray Drift Management

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory](#).

### **Aerial Drift Reduction Advisory**

[This section is advisory in nature and does not supersede the mandatory label requirements.]

#### **Information on Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

#### **Controlling Droplet Size**

- **Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces large droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** – Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

#### **Boom Length**

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

#### **Application Height**

Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### **Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment should increase with increasing drift potential (higher wind, smaller drops, etc.)

#### **Wind**

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

#### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing

temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## WHERE TO USE

SOLVE™ 2,4-D is used to control broad-leaved weeds in cereal crops, corn, sorghum, weeds and brush in rangeland, pastures, rights-of-way, ornamental turf, grass seed crops, fallow land, forest management and similar non-crop uses.

## PLANTS CONTROLLED

When used properly, product will kill or control the following, in addition to many other noxious plants susceptible to 2,4-D:

Arrowhead	Bur ragweed	Dock	Lambsquarters	Povertyweed	Vetch
Artichoke	Buttercup	Elderberry	Locoweed	Puncturevine	Virginia creeper
Bindweed (hedge, field and European)	Catnip	Goldenrod	Mexicanweed	Purslane	Wild lettuce
Bitter wintercress	Chickweed	Ground ivy	Morningglory	Russian thistle	Wild radish
Boxelder	Chickory	Hemp	Mustard	Sagebrush	Willow
Buckhorn	Cocklebur	Hoary cress	Parrotfeather	Shepherdspurse	
Bull thistle	Coffeebean	Honeysuckle	Pennywort	Sowthistle	
Burdock	Creeping jenny	Indigo	Pigweed	Stinkweed	
	Curly indigo	Ironweed	Plantain	Sumac	
	Dandelion	Jimsonweed	Pokeweed	Sunflower	

## LESS SUSCEPTIBLE WEEDS

Kochia	Poison ivy	Wild garlic
Pigweed (hybrid)	Smartweed	Wild onion

## CROPS

**Small grains not underseeded with a legume (barley, oats, wheat, rye):** See table for recommended use rates. Spray when weeds are small after grain begins tillering but before boot stage (usually 4 to 8 inches tall). Do not apply before the tiller stage nor from early boot through milk stage. To control large weeds that will interfere with harvest or to suppress perennial weeds, preharvest treatment can be applied when the grain is in the dough stage. Best results will be obtained when soil moisture is adequate for plant growth and weeds are growing well.

**Spring Planted Oats:** Use 1/2 pint per acre in sufficient water to give good coverage. Apply after the fully tillered stage, except during the boot to dough stage.

**Fall Planted Oats:** Apply 1/4 to 1-1/4 pints per acre after full tillering but before early boot stage. Some difficult weeds may require higher rates (3/4 to 1-1/4 pints per acre) for maximum control, but crop injury may result. Do not spray during or immediately following cold weather.

**Note:** Oats are less tolerant to 2,4-D than wheat or barley and more likely to be injured. Do not forage or graze treated grain fields within 2 weeks after treatment with 2,4-D. Do not feed treated straw to livestock.

**Corn:** See table for recommended use rates.

**Preemergence:** Apply SOLVE™ 2,4-D 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.

**Postemergence:** Best results are usually obtained when weeds are small and corn is 4 to 18 inches tall. When corn is over 8 inches tall, use drop nozzles to keep spray off corn foliage as much as possible. Do not apply from tasseling to dough stage. If corn is growing rapidly and temperature and soil moisture content is high, use 1/2 pint per acre rate 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/acre may be used to control some hard-to-control weeds. However, the possibility of injury to the corn is increased.

Do not use with atrazine, oil or other adjuvants. Since the tolerance to 2,4-D of individual hybrids varies, consult your local Extension Service, Agricultural Experiment Station, or University Weed Specialist for information.

**Preharvest:** After the hard dough or denting stage, apply 1 to 2 pints per acre of SOLVE™ 2,4-D by air or 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. Do not forage or feed corn fodder to livestock for 7 days following application.

**Sorghum (Milo):** See table for recommended rate. Apply to sorghum when crop is 4 to 12 inches high with secondary roots well established. Use drop nozzles when crop is over 10 inches high. Do not apply from flowering to dough stage. 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 the higher rates. Do not use with oil. Use lower rate if conditions of high temperature and high soil moisture exist.

### RECOMMENDED RATES OF SOLVE™ 2,4-D PER ACRE\*\*

CROP (SEE DETAILED INSTRUCTIONS ABOVE)	RATE, AVERAGE CONDITIONS	RATE, DRY CONDITIONS AS IN WESTERN STATES*
<b>Small Grains (Wheat, Barley, Rye):</b> Annual Weeds Perennial Weeds Preharvest	1/2 to 1 pint 1 pint 1 to 2 pints	1 to 2 pints 1-1/4 to 2 pints
<b>Oats:</b> Spring Fall	1/2 pint 1/2 to 3/4 pint	
<b>Corn:</b> Preemergent Postemergent Preharvest	1 to 2 quarts 1/2 pint 1 to 2 pints	1/2 to 3/4 pint
<b>Sorghum (Milo):</b> Postemergent	1/2 pint	1/2 to 3/4 pint

\*Arizona, Idaho, Montana, Oregon, Utah, Washington, Wyoming.

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

**Soybeans (Preplant Only)** – For Use in Crop Residue Management Systems: Apply 3/4 to 1 pint per acre **not less than 7 days** prior to planting soybeans or 1 to 2 pints per acre **not less than 30 days** prior to planting. Apply to postemergent weeds when small, actively growing, and free of stress caused by extremes in climatic conditions, diseases, or insect damage. The response of individual weed species is variable. Consult your local county agent or state Agricultural Extension Service or crop consultant for advice. Use the higher rate on larger weeds and when perennials are present. (See WEEDS CONTROLLED below.)

Apply using air or ground equipment in sufficient gallage 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.

## WEEDS CONTROLLED

alfalfa*	dock, curly	onion, wild*	speedwell
bindweed*	evening primrose, cutleaf	pennycress, field	thistle, Canada*
bullnettle	garlic, wild*	peppergrass*	thistle, bull
bittercress, smallflowered	horseweed or marestalk	plantains	velvetleaf
buttercup, smallflowered	ironweed	purslane, common	vetch, hairy*
Carolina geranium	lambsquarters, common	ragweed, common	Virginia copperleaf
cinqfoil, common & rough	lettuce, prickly	ragweed, giant	
clover, red*	morningglory, annual	shepherdspurse	
cocklebur, common	mousetail	smartweed, Pennsylvania*	
dandelion*	mustard, wild	sowthistle, annual	*Partially controlled

After applying, plant soybean seed as deep as practical or at least 1-1/2 to 2 inches deep. Adjust the planter press wheel, if necessary, to ensure that planted seed is completely covered.

If desired, this product may be applied preplant to soybeans in tank mixtures with other herbicides such as Poast®, Poast® Plus, Gly Star™ Original or Roundup®, Roundup D-Pak®, Honcho®, Gramoxone® Extra, Prowl® DG, Prowl® 3.3 EC, Pursuit® Plus, Scepter® 70 DG, Squadron® and others that are registered for preplant soybean use.

Commercial crop oil concentrates, agricultural surfactant, 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.

**Note:** Unacceptable injury to soybeans planted in treated fields may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather 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.

Not registered for use in California.

## RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS

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 use on low organic sandy soils (less than 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.

Do not mow or cultivate weeds prior to treating with this product as poor control may result.

Do not feed treated hay, forage, or fodder or graze treated soybeans to livestock. Do not feed or graze treated cover crops to livestock.

Only one application of this product may be made prior to planting soybeans per growing season.

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

**Ornamental Turf:** Use 1 to 3 pints of SOLVE™ 2,4-D in enough water to give good coverage to one acre on established stands of perennial grasses, depending on type of weeds and stage of growth. Do not use on creeping grasses such as Bent except for spot spraying. Newly seeded turf should not be treated until after the second mowing and the lower dosage rate should be used.

**Notes for all turf sites (excluding sod farms):** The maximum number of broadcast applications per treatment site is 2 per year.

**Grass Seed Crops:** Apply 1 to 4 pints of SOLVE™ 2,4-D per acre in the spring or fall to control broadleaf weeds in grass being grown for seed. Do not apply from early boot to 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 per acre can be used to control hard-to-kill annual or perennial weeds. For best results, apply when soil moisture is adequate for good growth. Do not use on Bent unless injury can be tolerated. Do not graze dairy cattle within 7 days of application. Do not apply this product within 30 days of cutting grass for hay. Remove meat animals from treated areas 3 days prior to slaughter.

**Fallow Land:** On established perennial species such as Canada thistle and Field bindweed, apply up to 3 quarts of SOLVE™ 2,4-D per acre. For annual broadleaf weeds, apply 1 to 2 quarts per acre. Do not plant any crop for 3 months after treatment or until 2,4-D has disappeared from soil.

**Established Pastures and Rangelands:** Use 1 to 4 pints in sufficient water to give good coverage to one acre depending on type of weeds and stage of growth. Use only on established stands of perennial grasses. Do not graze dairy cattle within 7 days of application. Do not apply this product within 30 days of cutting grass for hay. Remove meat animals from treated areas 3 days prior to slaughter.

**General Weed Control: (Airfields, Roadsides, Vacant Lots, Fence Rows, Industrial Sites and similar areas):** Use 1 to 3 quarts of SOLVE™ 2,4-D per acre. Usually 2 quarts 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 may require repeat applications. Do not use on freshly seeded turf until grass is well established. Delay reseeded for 30 days.

**Woody Plant Control:** To control woody plants susceptible to 2,4-D such as Alder, Buckbrush, Elderberry, Sumac, and Willow on non-crop areas, use 2 to 3 quarts of SOLVE™ 2,4-D per acre in 100 gallons of water. Wet all parts of the plants thoroughly, including stem and foliage, to the point of run off. Higher volumes of up to 400 gallons per acre are necessary where the brush is very dense and over 6 to 8 feet high. Applications are more effective when made on actively growing plants. Treatment should not be made during time of severe drought or in early fall when leaves lose their green color. Hard-to-control species may require re-treatment next season.

## USES IN FOREST MANAGEMENT

**Conifer Release:** For control of alder, apply 1-1/2 to 3 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" 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 up to 3 quarts of product per acre before new growth on Douglas fir is 2" long. To control manzanita and ceanothus in ponderosa pine, apply up to 3 quarts per acre before pine growth begins in spring. To increase performance, add 2 to 4 quarts of diesel, fuel oil, kerosene, or a 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" in late summer, 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, Hazel 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 noncrop areas, apply undiluted product in a concentrate tree injector calibrated to apply 1 ml. per injection. Space injections 2' 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-October 15. For dilute injections, mix 1 gallon of 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, and tansy ragwort, apply 1 to 3 quarts of product per acre 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.

**Site Preparation: (As Dormant Spray)** – For control of alder prior to planting seedlings, apply 2 to 4 quarts of product per acre in diesel, fuel oil, or similar oil 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 to 3 quarts of product per acre in 8 to 25 gallons of water, after most alder leaves are full size. To increase penetration, 2 to 4 quarts per acre of diesel, fuel oil, kerosene, or a suitable approved agriculture surfactant at recommended label rates, may be added to the spray mixture.

## CONDITIONS OF SALE AND WARRANTY

The DIRECTIONS FOR USE of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, 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, or the manner of use or application, all of which are beyond the control of ALBAUGH, INC., its Supplemental Distributors or the Seller. All such risks shall be assumed by the Buyer.

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