



# Agricultural Herbicide

# **Water Dispersible Liquid**

Contains 2 Lbs Active Ingredient Per Gallon

# 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				
	Hold eye open and rinse slowly and gently with water for 15-20 minutes.			
<b>IF IN EYES:</b> • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing				
	Call a poison control center or doctor for treatment advice.			
IF ON SKIN OR	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				
	Call a poison control center or doctor immediately for treatment advice.			
IF SWALLOWED:	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			
HOT LINE NUMBER				
Have the product co	ntainer or label with you when calling a poison control center or doctor, or going for treatment			

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-866-374-1975 for medical emergencies involving this product.

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

EPA Reg. No. 61842-47 EPA Est. No.

#### **NET CONTENTS:**

Manufactured for:

Tessenderlo Kerley, Inc. 2255 North 44th Street, Suite 300 Phoenix, AZ 85008-3279 1-800-525-2803 www.novasource.com



# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER! CAUSES EYE DAMAGE.

Corrosive, causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Shoes plus socks.

Protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

### **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. Remove PPE immediately after handling this product and as soon as possible wash thoroughly and put on clean clothing.

#### **ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

The active ingredient, hexazinone, in this product is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

# PHYSICAL AND CHEMICAL HAZARDS

FLAMMABLE. Keep away from heat, sparks, and open flames. Keep container closed.

#### DIRECTIONS FOR USE

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

VELPAR® L CU must be used only in accordance with instructions on this label, or in supplemental publications.

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.

The correct use rates by crop and geographical area, specified on this label, and proper mixing/loading site considerations and application procedures must be followed to minimize potential for hexazinone movement into ground water. Users are encouraged to consult with their state Department of Agriculture, Extension Service, or other pesticide lead agency for information regarding soil permeability, aquifer vulnerability, and best management practices for their area.

# PRODUCT INFORMATION

VELPAR L CU herbicide is a water-dispersible liquid that is mixed in water and applied as a spray for weed control in certain crops.

VELPAR L CU is an effective general herbicide providing both contact and residual control of many annual, biennial and perennial weeds and woody plants.

VELPAR L CU is noncorrosive to equipment.

Care must be exercised when applying VELPAR L CU near desirable trees or shrubs as they can absorb VELPAR L CU through roots extending into treated areas.

This product may be applied on agricultural sites that contain areas of temporary surface water caused by collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittent drainage, intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

# **ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY**

VELPAR L CU is absorbed through the roots and foliage. Moisture is required to activate VELPAR L CU in the soil. Best results are obtained when the soil is moist at the time of application and 1/4–1/2 inches of rainfall occurs within 2 weeks after application.

For best results, apply VELPAR L CU preemergence or postemergence when weeds are less than 2 inches in height or diameter.

Foliar activity is most effective under conditions of high temperature (above 80° F), high humidity, and good soil moisture. Foliar activity may be reduced when vegetation is dormant, semi-dormant, or under stress.

On herbaceous plants, symptoms usually appear within 2 weeks after application under warm, humid conditions, while 4–6 weeks may be required when weather is cool or dry, or when plants are under stress. If rainfall after application is inadequate to activate VELPAR L CU in the soil, plants may recover from contact effects and continue to grow.

On woody plants, symptoms usually appear within 3–6 weeks after sufficient rainfall has carried the herbicide into the root zone during periods of active growth. Defoliation and refoliation may occur, but susceptible plants are killed.

The degree and duration of control may depend on the following:

- Use rate
- Weed spectrum and size at application
- Environmental conditions at and following treatment

Where a rate range is shown, use the higher levels of the dosage range on hard-to-control species, fine-textured soils, or soils containing greater than 5% organic matter or carbon. Use the lower levels of the dosage range on coarse-textured soils and/or on soils low in organic matter. Refer to specific uses for rate ranges.

# APPLICATION INFORMATION

VELPAR L CU may be applied by ground equipment and, where permitted, aerial equipment. Use rates, minimum spray gallonage, and other application information are described for the various uses.

Dispose of the equipment washwater by applying it to a use-site listed on this label or in accordance with directions given in the "Storage and Disposal" section of this label.

Before spraying, calibrate equipment to determine the quantity of water necessary to uniformly and thoroughly cover the vegetation and soil in a measured area to be treated.

# TANK MIXTURES

VELPAR L CU herbicide may be tank mixed with other herbicides and/or adjuvants registered for the crops specified in the label.

Refer to the label of the tank mix partner(s) for any additional use instructions or restrictions. The most restrictive label provisions apply. If other label instructions conflict with this label do not tank mix the herbicide and/or adjuvant with VELPAR L CU herbicide.

**NOTE**: When the air temperature is around 32° F, tank mixtures of paraquat dichloride plus VELPAR L CU may form a hard sludge in the spray tank. This effect is most likely to occur when the tank mixture comes into contact with aluminum.

### RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide instructions available in your area.

### INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

# AGRICULTURAL USES

# AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

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

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

- Coveralls.
- Chemical resistant gloves made of any waterproof material.
- Shoes plus socks.
- Protective eyewear.

# **ALFALFA**

VELPAR L CU is labeled for control of certain weeds in established alfalfa grown for hay or seed production.

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not exceed 6 pints per acre per application.
- Do not exceed 6 pints (1.5 pounds active ingredient hexazinone) per acre per year.

# APPLICATION INFORMATION

#### **NON-DORMANT AND SEMI-DORMANT VARIETIES**

In the following states, make a single application of VELPAR L CU during the winter months when alfalfa plants are in the least active stage of growth.

Arizona Montana Oklahoma Washington
California Nebraska Oregon Wyoming
Colorado Nevada South Dakota

IdahoNew MexicoTexasKansasNorth DakotaUtah

In the following states, make a single application of VELPAR L CU either in the spring before new growth exceeds 2 inches in height or to alfalfa stubble after cutting, following hay removal and before regrowth exceeds 2 inches in height.

Arkansas Maine **New Jersey** Vermont Maryland New York Virginia Connecticut Delaware Massachusetts North Carolina West Virginia Illinois Michigan Ohio Wisconsin

IndianaMinnesotaPennsylvaniaIowaMissouriRhode IslandKentuckyNew HampshireTennessee

**NOTE**: Severe alfalfa injury may result following application, if after cutting the regrowth is more than 2 inches high, or there is significant stubble left after cutting or grazing, or the air temperature is above 90 °F.

#### DORMANT VARIETIES

Make a single application of VELPAR L CU after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

# **USE RATES**

Use higher rates on hard-to-control species, (see **Weeds Controlled** section below) fine textured soils, soils containing greater than 5% organic matter, or under adverse environmental conditions such as temperature extremes or when weeds are stressed due to low rainfall.

For dormant alfalfa, use a surfactant approved for crops at the rate of 0.25% v/v (1 quart per 100 gallons of spray solution).

Select the appropriate rate for soil texture and organic matter content as follows:

VELPAR L CU (Pints/Acre)
Percent Organic Matter in Soil

	r crecit organic matter in son			
Soils	<1%	1-5%	>5%	
Coarse Texture Loamy sand, sandy loam	2-3	2-3	4-6	
<b>Medium Texture</b> Loam, silt loam, silt, clay loam, sandy clay loam	2-3	3-6	4-6	
Fine Texture Silty clay loam, sandy clay, silty clay, clay	3-6	3-6	4-6	

# NOTE:

- In the states of MT, ND, SD, and WY, do not exceed a use rate of 4 pints per acre on medium and fine textured soils.
- In the state of Montana (MT), do not apply to soils with less than 1.5% organic matter.
- In the state of Wyoming (WY):
  - o Do not apply to soils with less than 0.5% organic matter.
  - Apply to irrigated alfalfa only.

#### WEEDS CONTROLLED

VELPAR L CU, when applied preemergence or early postemergence at the following rates, will control these weed species in alfalfa:

#### 1-2 PINTS/ACRE

**Tansymustard** 

Descurainia pinnata

#### 2-4 PINTS/ACRE

Bluegrass, annual

Brome, downy (cheatgrass)

Buckwheat, wild Catchfly, English

Chamomile, mayweed (dogfennel)

Chickweed, common

Fiddleneck, tarweed

Filaree Flixweed

Groundsel, common

Henbit\*

Lettuce, Miner's Mustard, blue

Mustard, Jim Hill (tumble)

Mustard, wild

Orchardgrass (seedling) Pennycress, field Pigweed, redroot Radish, wild Rocket, London

Rocket, common yellow

Salsify

Shepherdspurse Speedwell, purslane

Spurry, corn

Poa annua

Bromus tectorum

Polygonum convolvulus

Silene gallica Anthemis cotula Stellaria media

Amsinckia lycopsoides

Erodium sp.

Descurainia Sophia Senecio vulgaris Lamium amplexicaule Montia perfoliata Chorispora tenella Sisymbrium altissimum

Brassica kaber Dactylis glomerata Thlaspi arvense Amaranthus retroflexus Raphanus raphanistrum

Sisymbrium irio Barbarea vulgaris Tragopogon spp. Capsella bursa-pastoris Veronica peregrina Spergula arvensis

#### 4-6 PINTS/ACRE

Alfalfa\* (seedling) Barley, foxtail (seedling)

Bluegrass, perennial\* (spring only)

Cockle, white\*

Dandelion, common\*

Dandelion, false\* (spotted catsear)

Foxtail\* Kochia

Lambsquarters, common

Lettuce, prickly\* Mallow, common Quackgrass\*

Ryegrass, Italian (annual) Speedwell, ivyleaf Tea, Mexican\*

Thistle, Canada (seedling)

Thistle, Russian

Medicago sativa Hordeum jubatum

Poa spp.

Melandrium album Taraxacum officinale Hypochaeris radicata

Setaria spp. Kochia scoparia Chenopodium album Lactuca serriola Malva neglecta Elytrigia repens Lolium multiflorum Veronica hederaefolia Chenopodium ambrosioides

Cirsium arvense Salsola iberica

VELPAR L CU, when applied to alfalfa in late spring or after cutting at the following rates, will control these species listed below:

# 2-6 PINTS/ACRE

Crabgrass Fleabane Foxtail Jimsonweed

Lambsquarters, common

Pigweed, redroot

Digitaria spp. Conyza spp. Setaria spp. Datura stramonium Chenopodium album Amaranthus retroflexus

<sup>\*</sup> Suppression - a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

# SEED ALFALFA (CA, ID, MT, NV, OR, UT, WA)

VELPAR L CU may be used for general broadleaf weed and grass control in established alfalfa grown for seed.

#### **DORMANT VARIETIES**

Make a single application of VELPAR L CU after alfalfa becomes dormant and before new growth exceeds 2 inches in height in the spring. Where weeds have emerged, use a surfactant.

#### NON-DORMANT AND SEMI-DORMANT VARIETIES

Make a single application of VELPAR L CU during the winter months when alfalfa plants are in the least active stage of growth.

#### **WEEDS CONTROLLED**

Refer to the Alfalfa - Weeds Controlled section for specific use rates and weeds controlled.

# USE PRECAUTIONS AND RESTRICTIONS SEED ALFALFA

- Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.
- Do not use VELPAR L CU on fields with sandy loam or loamy sand soils having less than 1% organic matter.
- Do not exceed 2 pints per acre on fields with sandy loam or loamy sand soils having 1–2% organic matter.
- Do not exceed 2 pints per acre on seed alfalfa that has been established for only one growing season.

# SEED ALFALFA WALLA WALLA COUNTY, WASHINGTON

VELPAR L CU Herbicide may be used for the suppression of prickly lettuce and quackgrass and control of Canada thistle (seedling), kochia, and certain other weeds in established alfalfa grown for seed.

#### Use Rates: 4 to 6 pints per acre

Kochia Lettuce, prickly\* Quackgrass\* Thistle, Canada (seedling) Kochia scoparia Lactuca serriola Elytrigia repens Cirsium arvense

\* Suppression

#### USE PRECAUTIONS AND RESTRICTIONS SEED ALFALFA - WALLA WALLA COUNTY WASHINGTON

Do not apply within 30 days of harvest (cutting for hay), or feeding of forage or grazing.

Do not exceed 6 pints VELPAR L CU herbicide per acre per application.

Do not exceed 6 pints (1.5 pounds active ingredient hexazinone) per acre per year.

# SPRAY EQUIPMENT

Apply VELPAR L CU using a fixed boom power sprayer or aerial equipment.

For ground applications apply in a minimum of 20 gallons of spray solution per acre and by air in a minimum of 5 gallons per acre. Use at least 5 pints of water per each 1 pint of VELPAR L CU.

# CHEMIGATION ALFALFA

Apply this product only through center pivot or linear-move sprinkler irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

Severe alfalfa injury may result following application after cutting if either the regrowth is more than 2" high or significant stubble is left after alfalfa cutting.

If you have questions about calibration, you may contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments when needed.

#### DORMANT APPLICATIONS

Select the appropriate rate, see **Use Rate** section, for soil texture and organic matter content using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application, and when weeds have not germinated or are less than 2" tall or across.

#### **APPLICATION AFTER CUTTING**

Apply VELPAR L CU at 1 pint per acre to stubble after cutting, following hay removal, and before regrowth exceeds 2" in height. Apply VELPAR L CU using 0.25" to 0.75" of sprinkler irrigation as a continuous injection during the application. Best results are obtained when soil is moist at time of application and when weeds have not germinated or are less than 2" tall or across.

**NOTE**: Making an application when daily temperatures are forecast to be in the mid-to-high 90 degree temperature range within 3 to 5 days after treatment may increase the potential for crop injury.

#### SPRINKLER CHEMIGATION

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

#### MIXING INSTRUCTIONS

- 1. Fill the supply tank 1/4 to 1/3 full of water.
- 2. While agitating, add the required amount of VELPAR L CU and continue agitation.
- 3. Once the VELPAR L CU is fully dispersed, maintain agitation and continue filling tank with water.
- 4. As the tank is filling, add tank mix partners (if desired). Follow use precautions and directions on the tank mix partner label.
- 5. After thorough mixing, the agitation system can be stopped to prevent excessive foaming in the tank. Once thoroughly mixed the solution in the supply tank does not require additional agitation unless specified on the companion products label. If foaming occurs in the injection supply tank, a defoaming agent (defoamer) may be added.
- 6. Apply VELPAR L CU spray mixture within 48 hours of mixing to avoid product degradation.

#### **USE PRECAUTIONS AND RESTRICTIONS CHEMIGATION**

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.
- Distributing treated water in an uneven manner can result in crop injury, lack of effectiveness, or over-tolerance
  pesticide residues in the crop. Therefore, to ensure that the mixture is applied evenly at the labeled rate, use
  sufficient water, apply the mixture for the proper length of time and ensure sprinkler produces a uniform water
  pattern.
- Do not permit run-off during chemigation.

#### POSTING OF AREAS TO BE TREATED

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements.

- Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas.
- The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English.
- Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.
- All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply
  contrasts with their immediate background. At the top of the sign shall be the words "KEEP OUT", followed by an
  octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP". Below the symbol shall be the
  words "PESTICIDE IN IRRIGATION WATER".
- Posting required for chemigation does not replace other posting and reentry requirements for farm worker safety.

# **REPLANTING (FOLLOWING ALFALFA)**

- Do not replant treated areas to any crop except corn, root crops or sugarcane within two years after treatment, as crop injury may result.
- Corn may be planted 12 months after the last treatment in areas of moderate to high rainfall (greater than 20 inches), provided the use rate did not exceed 3 pints per acre.
- Root crops such as potatoes, sugarbeets, radish and carrots may be planted 12 months after last treatment, provided the use rate does not exceed 2 pints per acre. Sites with use rates higher than 2 pints per acre must not be replanted to any root crop within 2 years after application of VELPAR L CU, or unacceptable crop injury may result.
- In areas where irrigation is needed to produce the crop, the crop rotation intervals listed may need to be extended if the normal irrigation amount is reduced for any reason.
- Sugarcane may be planted any time following treatment.
- In California, do not replant seed alfalfa areas to any crop within two years after treatment, as crop injury may result.

#### CROP ROTATION

#### Field Bioassay

In arid climates (10 inches of rainfall or less per year) or areas where drought conditions have prevailed for one or more years, a field bioassay must be completed prior to planting any desired crop. The results of this bioassay may require the rotation intervals listed above to be extended.

A successful bioassay means growing to maturity a test strip of the crop(s) intended for production. The test crop(s) strip must cross the entire field including knolls, low areas, and areas where any berms were located.

In areas where irrigation is needed to produce the crop, the crop rotation intervals listed may need to be extended if the normal irrigation amount is reduced for any reason.

# ALFALFA - IMPREGNATION ON DRY BULK FERTILIZER (EXCEPT CALIFORNIA AND ARIZONA)

Dry bulk fertilizer may be impregnated or coated with VELPAR L CU for application to established alfalfa. All instructions and precautions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with VELPAR L CU, except potassium nitrate or sodium nitrate. Do not use VELPAR L CU on limestone.

Use a minimum of 250 lb dry bulk fertilizer per acre and up to a maximum of 450 lb per acre. To impregnate or coat the dry bulk fertilizer with VELPAR L CU, direct the nozzles to deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of VELPAR L CU to dry bulk fertilizer will vary, and if the absorptivity is not adequate, the use of an absorptive powder may be required to

produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with VELPAR L CU, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

Select the rate of VELPAR L CU to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of VELPAR L CU that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

#### Rate Chart for Impregnating Fertilizer with VELPAR L CU

Fertilizer Rate/Acre	VELPAR L CU Rate Per Acre			
	2 Pints	3 Pints	4 Pints	6 Pints
250 lbs	16 pts/ton	24 pts/ton	32 pts/ton	48 pts/ton
300 lbs	13.4 pts/ton	20 pts/ton	26.8 pts/ton	40.2 pts/ton
350 lbs	11.4 pts/ton	17.2 pts/ton	22.8 pts/ton	34.2 pts/ton
400 lbs	10 pts/ton	15 pts/ton	20 pts/ton	30 pts/ton
450 lbs	8.8 pts/ton	13.2 pts/ton	17.6 pts/ton	26.4 pts/ton

For rates other than those listed, use the following formula to calculate the amounts of VELPAR L CU to be impregnated per ton of dry fertilizer.

Pints VELPAR L CU X 1 Ton = Pints VELPAR L CU per Per Acre Fertilizer Ton of Fertilizer

#### **APPLICATION**

Uniform application of VELPAR L CU-impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply 1/2 the labeled rate and overlap 50%. This results in the best distribution pattern.

#### **USE PRECAUTIONS AND RESTRICTIONS - ALFALFA**

- Best results are obtained when 1/2–1 inch of rainfall or sprinkler irrigation occurs within two weeks after application, when soil is moist at time of application, and when weeds have not germinated or are less than 2 inches in height or diameter.
- Heavy rainfall or excessive irrigation after application may result in crop injury or poor performance of the herbicide.
- On soils high in organic matter (greater than 5%), the effectiveness of VELPAR L CU can be significantly reduced and weed control may be unsatisfactory.
- Avoid overlapping of spray swaths and shut off spray booms while starting, turning, slowing or stopping or crop
  injury may result.
- Crop injury, including mortality, may result in fields with restricted root growth due to nonuniform soil profiles such as gravel bases and clay lenses.
- Crop injury may result if hot weather, mid-to-high 90 degree range or higher, occurs within a few days after application.
- Do not apply to snow-covered or frozen ground.
- Crop injury to alfalfa can be influenced by several factors including alfalfa variety, soil conditions, uniformity of application and environmental conditions, etc., if no prior use history for the site or variety, treat only a small area when first using VELPAR L CU.
- If abnormally dry conditions exist following application, restrict the first irrigation to no more than 1/2 acre inch of water.
- Temporary yellowing of alfalfa may occur following VELPAR L CU applications.
- Treat only stands of alfalfa established for one year or for one growing season (except in California), provided:
  - The alfalfa stand has a well developed tap root structure that is at least 10 inches in length (0.25 inches diameter below the crown) throughout the field and the crop is healthy, vigorous, and not under stress from weather conditions, low fertility, insects or disease damage.
  - In areas with shorter growing seasons, such as, higher elevations, adequate alfalfa tap root growth may not occur and especially when alfalfa is grown together with a cover or nurse crop. If an adequate tap root is not present, delay application of VELPAR L CU until the alfalfa has gone through a minimum of two growing seasons.

- In California, fall planted alfalfa may be treated in the following winter months with VELPAR L CU at 1 to 2 pints per acre (use higher rate for fine textured soils) provided:
  - o alfalfa root growth exceeds 6 inches in length
  - o vegetative top growth of alfalfa has lateral development of secondary growth
  - alfalfa is healthy and vigorous, not growing under stress from insect, disease, winter injury or other types
    of stress.

Injury may result to alfalfa plants that fail to meet these growth criterion listed above.

- Do not use VELPAR L CU on seedling alfalfa, alfalfa-grass mixtures, or other mixed stands as injury may result to the seedling alfalfa or companion crop.
- Do not add a surfactant to VELPAR L CU when treating non-dormant alfalfa.
- Do not use VELPAR L CU on gravelly or rocky soils, exposed subsoils, hardpan, sand, poorly drained soil, or alkali soils.

# **BLUEBERRY**

# HIGH BUSH BLUEBERRIES

VELPAR L CU is labeled for control of certain herbaceous and woody weeds in established high bush blueberry fields.

#### APPLICATION INFORMATION

VELPAR L CU may be applied to high bush blueberries that have been established for 3 or more years. Apply VELPAR L CU in the spring before the lower leaves of the blueberry plant have fully expanded. Avoid contact of the leaves with the spray solution.

Using calibrated ground spray equipment, make the application in sufficient water to provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray booms when starting, turning, slowing or stopping, or injury to the crop may result.

#### **USE PRECAUTIONS AND RESTRICTIONS HIGH BUSH BLUEBERRIES**

- Do not apply through any type of irrigation system.
- Do not apply within 90 days of harvest.
- Do not apply to flooded field with standing water.
- Application to blueberry foliage will result in crop injury.
- Since the effect of VELPAR L CU on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas.

# USE RATES (Pints/Acre) HIGH BUSH BLUEBERRIES

Soil Texture	Less than or equal to 3% organic matter	Greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	4	5
Medium loam, silt, clay loam, sandy clay loam	4	8
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	4-6*	8

<sup>\*</sup>Use the higher rate as the soil organic matter approaches 3%.

#### LOW BUSH BLUEBERRIES

VELPAR L CU may be used for the control of certain weeds in low bush blueberries.

#### **APPLICATION INFORMATION**

VELPAR L CU may only be applied to pruned blueberry fields in the spring before leaf emergence. Using calibrated ground spray equipment, make the application in sufficient water to provide thorough and uniform coverage to the treated area (usually 20 gallons per acre). Shut off spray booms when starting, turning, slowing or stopping, or injury to the crop may result.

#### USE PRECAUTIONS AND RESTRICTIONS LOW BUSH BLUEBERRIES

- Do not apply through any type of irrigation system.
- Do not apply to flooded field with standing water.
- Do not apply within 450 days of harvest.
- Do not exceed 8 pints per acre if field has been treated with hexazinone within the past 8 years.
- Application to blueberry foliage will result in crop injury.
- Since the effect of VELPAR L CU on blueberries varies with soil type, plant vigor, uniformity of applications and amount of rainfall, it is suggested that growers limit their first use to small areas. If excessive leaf drop is observed after treatment, reduce rate in future applications.
- Maintain a 50 foot buffer from any well head or water reservoir.

# USE RATES (Pints/Acre) LOW BUSH BLUEBERRIES

Soil Texture	Less than or equal to 3% organic matter	Greater than 3% organic matter
Coarse loamy sand, sandy loam (50-85% sand)	4	5
Medium loam, silt loam, silt, clay loam, sandy clay loam	7	6
Fine silty clay loam, clay loam, sandy clay, silty clay, clay	4-8*	8-12**

<sup>\*</sup>Use the higher rate as the soil organic matter approaches 3%.

#### IMPREGNATION ON DRY BULK FERTILIZER

Dry bulk fertilizer may be impregnated or coated with VELPAR L CU for application to established high bush or low bush blueberries. All instructions and precautions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating and labeling.

If fertilizer materials are excessively dusty, use a suitable additive to reduce dust prior to impregnation, as dusty fertilizer will result in poor distribution during application. The dry fertilizer must be properly impregnated and uniformly applied to the alfalfa to avoid crop injury and/or poor weed control.

To impregnate the fertilizer, use a system consisting of a conveyor or closed drum used to blend dry bulk fertilizer. Any commonly used fertilizer can be impregnated with VELPAR L CU, except potassium nitrate or sodium nitrate. Do not use VELPAR L CU on limestone.

Use a minimum of 250 lb dry bulk fertilizer per acre and up to a maximum of 450 lb per acre. To impregnate or coat the dry bulk fertilizer with VELPAR L CU, direct the nozzles to deliver a fine spray of this suspension toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of VELPAR L CU to dry bulk fertilizer will vary, and if the absorptivity is not adequate, the use of an absorptive powder may be required to produce a dry, free-flowing mixture. "Microcel E" is the absorbent powder of choice. When another herbicide is used with VELPAR L CU, mix and impregnate the fertilizer immediately.

Apply impregnated fertilizer as soon as possible after impregnation for optimum performance.

Select the rate of VELPAR L CU to apply per acre from the appropriate section of this label. Then refer to the rate chart below to determine the amount of VELPAR L CU that is to be impregnated on a ton of dry bulk fertilizer, based on the amount of fertilizer to be distributed in one acre.

# Rate Chart for Impregnating Fertilizer with VELPAR L CU

Fertilizer Rate/Acre	VELPAR L CU Rate Per Acre			
	2 Pints	3 Pints	4 Pints	6 Pints
250 lbs	16 pts/ton	24 pts/ton	32 pts/ton	48 pts/ton
300 lbs	13.4 pts/ton	20 pts/ton	26.8 pts/ton	40.2 pts/ton
350 lbs	11.4 pts/ton	17.2 pts/ton	22.8 pts/ton	34.2 pts/ton
400 lbs	10 pts/ton	15 pts/ton	20 pts/ton	30 pts/ton
450 lbs	8.8 pts/ton	13.2 pts/ton	17.6 pts/ton	26.4 pts/ton

<sup>\*\*</sup>Use the higher rate for harder to control species.

For rates other than those listed, use the following formula to calculate the amounts of VELPAR L CU to be impregnated per ton of dry fertilizer.

Pints VELPAR L CU X 1 Ton = Pints VELPAR L CU per

Per Acre Fertilizer Ton of Fertilizer

#### **APPLICATION**

Uniform application of VELPAR L CU-impregnated dry fertilizer is essential for satisfactory weed control. Accurate calibration of the application equipment is essential for uniform distribution to the surface. The customary method of application is to apply 1/2 the labeled rate and overlap 50%. This results in the best distribution pattern.

# WEEDS CONTROLLED

VELPAR L CU will control or suppress the following weed species in High and Low Bush Blueberry crops:

Aster, heath\*

Aster ericoides

Barnyardgrass Echinochloa crus-galli

Blackberry\* (briar)

Bluegrass, Kentucky (perennial)\*

Brome, downy (cheatgrass)

Broomsedge\*

Rubus spp.

Poa pratensis

Bromus tectorum

Andropogon virginicus

Broomsedge\*
Carrot, wild\*
Catchfly, English
Chamomile, mayweed

Andropogon virginicus
Daucus carota
Silene gallica
Anthemis cotula

Cherry, wild Prunus serotia
Chickweed, common Stellaria media
Cinquefoil Potentilla spp.

Cockle, white\*

Dandelion, common\*

Dandelion, false\* (spotted catsear)

Cotentina spp.

Melandrium album

Taraxacum officinale

Hypochaeris radicata

Daisy, oxeye Chrysanthemum leucanthemum

Dock, curly\* Rumex crispus

Dogfennel Eupatorium capillifolium

Fescue\* Festuca spp.

Fiddleneck, tarweed Amsinckia lycopsoides

Filaree Erodium spp.

Fireweed\*(willowweed)

Fleabane, flax-leaved

Flixwood

Flexus of the control of

Flixweed Descurainia Sophia
Foxtail, yellow Setaria lutescens
Goldenrod Solidago spp.
Groundsel, common Senecio vulgaris
Hawkweed Hieracium spp.

Hawkweed Hieracium spp.
Horseweed/marestail Conyza canadensis
Jimsonweed Datura stramonium
Lambsquarters, common Chenopodium album
Lettuce, Miner's Montia perfoliata

Lettuce, Miner's

Lettuce, prickly\*

Mustard, blue

Mustard, Jim Hill (tumble)

Orchardgrass \*

Montia perfoliata

Lactuca serriola

Chorispora tenella

Sisymbrium altissimum

Dactylis glomerata

Orchardgrass (seedling)

Panicgrass (witchgrass)

Panicum capillare

Panicum tell

Panicum diabatemilla

Panicum, fall
Pearly everlasting
Pennycress, field
Panicum dichotomiflorum
Anaphalis margaritacea
Thlaspi arvense

Pigweed, redroot

Quackgrass

Radish, wild

Amaranthus retroflexus

Agropyron repens

Raphanus raphanistrum

Ragweed, common Ambrosia elation
Raspberry\* (briar) Rubus spp.

Rocket, London Rocket, common yellow Ryegrass, Italian (annual) Ryegrass, perennial\*

Salsify

Shepherdspurse Smartweed, Pennsylvania

Sorrel, red Sorrel, sheep Spurry, corn Strawberry, wild

Tansymustard (pinnate)

Tea, Mexican\*

Velvetgrass Yarrow

8 to 12 Pints/acre

Dogbane\*\*
Meadow-sweet
Blackberry, trailing
Laurel, sheep
Rose, wild\*\*

Sisymbrium irio Barbarea vulgaris Lolium multiflorum Lolium perenne Tragopogon spp. Capsella bursa-pastoris

Capsella bursa-pastoris Polygonum pensylvanicum Rumex acetosella

Rumex acetosella Rumex angiocarpus Spergula arvensis Fragaria virginiana Descurainia pinnata

Chenopodium ambrosioides

Holcus lanatus Achillea spp.

Apocynum spp. Filipendula ulmaria Rubus ursinus Kalmia angustifolia

Rosa spp.

# **PINEAPPLE**

VELPAR L CU is labeled for control of certain weeds in pineapple.

# **APPLICATION INFORMATION**

Mix the proper amount of VELPAR L CU in water. Add a surfactant at 0.25% by volume of water.

Use the lower rates on coarse-textured soils or in areas where rainfall exceeds 65 inches per year. Use the higher rates on fine-textured soils or in areas where rainfall is less than 65 inches per year.

**Intercrop period** - Apply VELPAR L CU as a broadcast spray in 100–400 gallons of water per acre at the rate of 0.9–7 pints per acre. For aerial application, use at least 10 gallons water per acre.

**Post mulch, preplant** - Apply VELPAR L CU as a broadcast spray in 100–400 gallons of water per acre at the rate of 0.9–7 pints per acre.

**Post plant, before planting material starts active growth** - Apply VELPAR L CU as a broadcast spray in 100–400 gallons of water per acre at the rate of 0.9–7 pints per acre. When weed growth has escaped control by other herbicide applications, a post-planting application may be made after the planted cuttings start to grow.

**Post-plant crop harvest, prior to forcing first ratoon** - Apply VELPAR L CU as a broadcast spray in 100–400 gallons of water per acre at the rate of 0.9–7 pints per acre.

**Directed postemergence (pineapple and weeds) inter-space application** - Apply VELPAR L CU as a directed spray 3–10 months after planting in 50–200 gallons of water per acre (broadcast basis) at the rate of 0.9–7 pints per acre (broadcast basis) using a stroller boom or knapsack.

**Directed spot treatments for perennial grasses before floral induction** - Spray perennial grasses postemergence to wet (50–200 gallons per acre depending on size) with 3.5–7 pints per 100 gallons of water as a spot treatment.

Treatments to field edges and roadsides - Apply VELPAR L CU at 7–14.5 pints per acre in 100–400 gallons of water.

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

<sup>\*\*</sup> Harder to control species.

#### WEEDS CONTROLLED

VELPAR L CU is labeled for the control or suppression of the following weeds in pineapple crops:

Ageratum, tropic Ageratum convcoides Balsamapple Momordica charantia Castorbean Ricinus communis Crabgrass Digitaria spp. Crotalaria Crotolaria spp. **Dallisgrass** Paspalum dilatatum Guineagrass Panicum maximum Junalerice Echinochloa colonum Kao haole\* Leucaena glauca Moana loa vine\* Canavalia cathartica Morningglory *lpomoea* spp. Oxalis Oxalis spp.

Popolo Solanum sandwicense Richardsonium Richardsonia spp. Vaseygrass Paspalum urvillei

# **USE PRECAUTIONS AND RESTRICTIONS PINEAPPLE**

- Do not exceed 1.8 gallons VELPAR L CU per acre per crop.
- Do not apply VELPAR L CU within 181 days of harvest.

# **SUGARCANE**

VELPAR L CU is labeled for selective weed control in sugarcane except in the State of Florida.

# APPLICATION INFORMATION

Apply a single treatment of VELPAR L CU per year using a fixed-boom sprayer and a minimum of 25 gallons of spray per acre unless otherwise directed.

#### HAWAII

Apply VELPAR L CU pre- or postemergence at the following rates for the indicated soil texture:

Soil Texture Description	VELPAR L CU (Pints/Acre) (Plus surfactant 0.25% by volume)		
Coarse Sand, loamy sand, sandy loam	1.8 – 3.5		
Medium Loam, silt loam, silty clay loam	1.8 – 7.0		
Fine Clay, gray hydromorphic clay	7.0 – 14.5		

Use the higher levels of the labeled rate ranges on soils high in organic matter. Do not apply more than twice the highest labeled rate for the indicated soil texture per crop (18–24 months).

Add an adjuvant for all uses.

For preemergence use only, VELPAR L CU may be applied with aerial equipment using at least 10 gallons of spray per acre.

Apply VELPAR L CU herbicide as a spot spray application for emerged weeds in sugarcane. Mix 3 to 12 pints of VELPAR L CU per 100 gallons of water. Apply a sufficient volume of spray solution to thoroughly wet weed foliage but do not exceed a use rate of 14.4 pints per acre. Use the lower concentrations on coarse-textured soils that are low in organic matter, and use the higher concentrations on fine-textured soils that are high in organic matter.

<sup>\*</sup> Suppression – a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

#### LOUISIANA

Apply 1.8–3.5 pints of VELPAR L CU per acre broadcast in the fall before sugarcane emerges or in the spring before active cane tillering begins. Fall treatments of 1.8–3 pints per acre may be followed by a spring treatment of 1.8–3 pints per acre. Do not apply more than 6 pints per year. Use the higher levels of the labeled rate range on fine-textured soils.

#### **PUERTO RICO**

For preemergence treatments, apply 0.9–1.8 pints of VELPAR L CU per acre.

For postemergence treatments, apply 0.9–1.8 pints of VELPAR L CU per acre to weeds after they have emerged. Use the lower rates on coarse-textured soils and the higher rates on fine-textured soils (high in clay or organic matter). Each rate may receive up to 1.8 pints of VELPAR L CU per acre.

For spot treatment of emerged weeds, VELPAR L CU may be applied with a knapsack sprayer in concentrations of 0.9–1.8 pints per 100 gallons of water. Apply a sufficient spray volume to wet the weed foliage. Do not exceed 100 gallons of spray per treated acre. Use the lower concentration on coarse-textured soils and the higher concentration on fine-textured soils.

**Note**: Since it is difficult to calibrate "spot" knapsack applications, extra care must be taken not to exceed the rate equivalent of the maximum of 1.8 pints VELPAR L CU per acre.

Do not apply more than 3.6 pints of VELPAR L CU per acre per crop.

#### **TEXAS**

Apply 1.8–7 pints of VELPAR L CU per acre. On plant cane, apply the herbicide before the cane emerges or as a directed layby treatment. On stubble cane, apply VELPAR L CU preemergence or early postemergence (up to the 3-leaf stage) or as a directed layby treatment. A pre- or early postemergence treatment may be followed by a layby treatment, provided at least 60 days have elapsed and 3 inches of rainfall or sprinkler irrigation have occurred since the first treatment.

Do not apply more than 7 pints of VELPAR L CU per acre per crop.

Use the following rates for the soil texture:

### **VELPAR L CU (Pints/Acre)**

Soil Texture Description	Preemergence	+	Layby
Coarse Sandy Loam	1.8		1.8
<b>Medium</b> Loam, silt loam	2.7		2.7
Fine Clay loam	3.5		3.5

<sup>\*</sup> With at least 2% organic matter

On dormant cane, a surfactant may be added to the spray mixture to increase control of emerged weeds.

### **WEEDS CONTROLLED**

VELPAR L CU will control or suppress the following species in sugarcane crops:

Ageratum, tropic\* Ageratum conycoides Alexandergrass Brachiaria plantaginea Balsamapple Momordica charantia Barnyardgrass Echinochloa crus-galli Cynodon dactylon Bermudagrass\* Burnweed, American (fireweed) Erechtites hieracifolius Chickweed, common Stellaria media Crabgrass, large Digitaria sanguinalis Crabgrass, smooth Digitaria ischaemum Crotalaria, fuzzy Crotalaria incana Crotalaria, showy Crotalaria spectabilis Cuphea, tarweed Cuphea carthagenensis Dallisgrass Paspalum dilatatum
Fingergrass, radiate Chloris radiata
Fingergrass, swollen Chloris barbata
Foxtail, bristly Setaria verticillata
Foxtail, yellow Setaria lutescens
Geranium, Carolina Geranium carolinianum

Goosegrass Elusine indica
Guineagrass Panicum maximum
Henbit Lamium amplexicaule
Itchgrass\* Rottboellia cochinchinensis

Job's-tears Coix lacryma

Johnsongrass (seedling)Sorghum halepenseJunglericeEchinochloa colonumLambsquarters, commonChenopodium album

Millet, Texas

Morningglory, hairy

Morningglory, threelobe

Mustard, wild

Oxalis

Panicum texanum

Ipomoea pentaphylla

Ipomoea triloba

Sinapis arvensis

Oxalis spp.

Paintbrush, Flora's

Panicum, browntop

Paspalum, ricegrass

Paspalum, sour

Paspalum, sour

Pigweed, redroot

Pigweed, slender (green)

Paspalum orbiculare

Paspalum conjugatum

Amaranthus retroflexus

Amaranthus viridus

Pigweed, smooth

Popolo

Purslane, common

Sandbur

Amaranthus chlorostachys
Solanum sandwicense
Portulaca oleracea
Cenchrus spp.

Sandbur Cenchrus spp.
Sensitive plant (hila hila) Mimosa spp.
Signalgrass, broadleaf Brachiaria platyphylla

Sowthistle, common
Spanishneedles
Sprangletop
Spurge, prostrate
Spurge, graceful
Sonchus oleraceus
Bidens bipinnata
Leptochloa spp.
Euphorbia humistrata
Chamaesyce hypericifolia

Sunflower Helianthus spp.
Vaseygrass Paspalum urvillei
Waltheria (hia loa) Waltheria spp.

# **USE PRECAUTIONS AND RESTRICTIONS SUGARCANE**

- Do not plant any crop other than sugarcane following an application of VELPAR L CU.
- Do not feed sugarcane forage to livestock.
- Do not apply VELPAR L CU:
  - Within 180 days of harvest in Hawaii.
  - Within 234 days of harvest in Louisiana.
  - Within 288 days of harvest in Puerto Rico.
  - Within 234 days of harvest in Texas.
- To avoid injury to sugarcane, observe the following precautions:
  - Do not use VELPAR L CU on cane that shows poor vigor because of insect damage, disease, or winter injury, or shows symptoms of other stress conditions such as drought stress.
  - Do not add a surfactant in applications unless otherwise specified or allowed.
  - Do not use VELPAR L CU on gravelly or rocky soils, thinly covered subsoils, or coarse-textured soils (sands to sandy loams) with less than 1% organic matter.
  - Temporary chlorosis of the crop may result from application over emerged cane. Applications during active cane growth must be directed to cover the weeds and soil while minimizing crop contact.
  - Do not use VELPAR L CU on varieties known to be susceptible to herbicides.
- Extremely heavy rainfall after application may result in poor weed control and/or crop injury, especially if the
  application is made to dry soil.

<sup>\*</sup> Suppression - a visible reduction in plant population and/or plant vigor as compared to an untreated area and generally not accepted as control.

# ADDITIONAL INSTRUCTIONS, PRECAUTIONS, AND RESTRICTIONS FOR AGRICULTURAL USES SPRAY TANK CLEAN OUT

Thoroughly clean all traces of VELPAR L CU from application equipment immediately after use. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

# SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

#### IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

#### **CONTROLLING DROPLET SIZE - GROUND APPLICATION**

- **Nozzle Type** Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- Pressure The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure
  reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a highercapacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

# **CONTROLLING DROPLET SIZE - AIRCRAFT**

- Nozzle Type Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- Number of Nozzles Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum
- **Nozzle Orientation** Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

# **BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT**

- Boom Length (aircraft) Using shorter booms decreases drift potential. Boom lengths are expressed as a
  percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper
  positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) Applications made at the lowest height that are consistent with pest control
  objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- Application Height (ground) Applications made at the lowest height consistent with pest control objectives, and
  that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the
  exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

#### WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

#### TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

#### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature 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. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

#### AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result.

It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

# **SENSITIVE AREAS**

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

#### **DRIFT CONTROL ADDITIVES**

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.

Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

# STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in original container only. Store in a cool, dry place.

**Pesticide Disposal:**Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, (a) for Plastic Containers, 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, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a

sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, (a) for Plastic Containers, 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, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Pressure rinse as follows: Empty the remaining product contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Insert pressure rinsing nozzle in the container, and rinse at about 40 PSI for at least 30 seconds. Drain rinsate for 10 seconds after the flow begins to drip. Pour or pump rinsate into application equipment or rinsate collection system. Then, (a) for Plastic Containers, 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, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with VELPAR L CU containing hexazinone only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transporting. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. 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, (a) for Plastic Containers, 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, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Do not transport if container is damaged or leaking.** If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC, 1-800-424-9300, day or night.

# WARRANTY AND LIMITATION OF DAMAGES

Tessenderlo Kerley, Inc. (TKI) warrants only that this product conforms to the product description on the label. Except as warranted by this label, TKI makes no representation or warranty or guarantee, whether expressed or implied, of fitness for a particular purpose of merchantability, or of product performance. TKI does not authorize any agent or representative to make any such representation, warranty or guarantee. To the extent consistent with applicable law, TKI's maximum liability for breach of its warranty or for use of this product, regardless of the form of action, shall be limited to the purchase price of this product. To the extent consistent with applicable law, buyer and user acknowledge and assume all risks and disposal liability resulting from handling, storage, use and disposal of this product. If buyer does not agree with or accept these warranty and liability limitations, buyer may return the unopened container to the place of purchase for full refund. Buyer's use of this product shall constitute conclusive evidence of buyer's acknowledgement and acceptance of the forgoing limitations. Some jurisdictions do not allow the exclusion of implied warranties or the limitation of certain damages, so the above may not apply. The purchase, delivery, acceptance and use of this product by the buyer are subject to the terms and conditions of seller's sales invoice for this product.

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