



GROUP 5 HERBICIDE

VELPAR DF VU HERBICIDE

WATER DISPERSIBLE GRANULE

FOR SALE FOR USE IN WOODLAND MANAGEMENT AREAS
and CHRISTMAS TREE PLANTATIONS

COMMERCIAL

READ THE LABEL AND THIS BOOKLET BEFORE USING

ACTIVE INGREDIENT: Hexazinone 750 g/kg
Warning, contains the allergen milk

REGISTRATION NO.: 31766 PEST CONTROL PRODUCTS ACT



POISON

SKIN IRRITANT
DANGER - CORROSIVE TO EYES

NET CONTENTS: 2 KG

Product Information: 1-888-283-6847
www.cropscience.bayer.ca

Bayer CropScience Inc.
Suite 200, 160 Quarry Park Blvd. SE
Calgary, AB T2C 3G3

In case of spills, poisoning or fire, telephone emergency response number
1-800-334-7577 (24 hours a day)

PRECAUTIONS:**• KEEP OUT OF REACH OF CHILDREN**

- Avoid contact with skin and clothing.
- Avoid breathing spray mist.
- Do not get in eyes.
- Keep container closed.
- Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Gloves are not required during application within a closed cab and/or cockpit.
- Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
- It is desirable that the pilot have communication capabilities at each treatment site at the time of application.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.
- Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.
- **DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

FIRST AID:**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 centre or doctor for treatment advice.

IF ON SKIN OR CLOTHING:

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

IF SWALLOWED:

Call a poison control centre 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 centre or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically. Medical personnel should contact Bayer's medical information services toll free 1-800-334-7577.



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- Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.
- It is desirable that the pilot have communication capabilities at each treatment site at the time of application.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.
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RESTRICTED USES

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offense under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

NATURE OF RESTRICTION:

This product is to be used only in the manner authorized; consult local pesticide regulatory authorities about use permits, which may be required.

Aerial application For Woodland Management Areas of Less Than 500 ha for site preparation prior to planting conifers.

VELPAR DF VU HERBICIDE may be applied by either fixed or rotary wing aircraft. VELPAR DF VU HERBICIDE must reach the ground in order to be effective, so the dispersal system chosen should be one that produces large spray droplets that are less likely to drift. Avoid dispersal systems or settings that produce spray droplets of less than 478 micrometers VMD. The spray should be released as close to the ground as possible. Do not release spray at heights greater than 15 meters above the canopy top.

With conventional boom and nozzle systems, the nozzles should point straight back to minimize the production of small droplets. Microfoil and Thru Valve booms are also well suited to VELPAR DF VU HERBICIDE application.

Apply 3.50 kg of VELPAR DF VU HERBICIDE per hectare in a minimum of 35 litres water per hectare.

For information on spray buffer zones required for the protection of water bodies and terrestrial habitat, please refer to the spray buffer zones specified under DIRECTIONS FOR USE.

Avoid dispersal systems or settings that produce spray droplets of less than 478 micrometers VMD.

Do not apply when windspeed at the 10-meter height is greater than 8 kph.

IMPORTANT

Injury to or loss of desirable trees or other plants may result from failure to observe the following: DO NOT drain or flush equipment on or near desirable trees or other plants or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent spray drift to desirable plants. Keep from contact with fertilizers, insecticides, fungicides, and seeds. Do not contaminate any body of water.

DO NOT use VELPAR DF VU HERBICIDE on gravelly or rocky soils, or soils that are sandy or coarse textured. DO NOT apply to sites whose physical state will prevent penetration of VELPAR DF VU HERBICIDE into the root zone of the target species. This includes frozen and snow-covered soils, sites that are water-saturated, or sites in which the water table is close to the surface. Do not use on sloped sites where there is the potential for run-off to sensitive areas. To allow sufficient soil penetration, do not apply late in the season close to freeze up. For further

definition of soil type refer to the "Soil Definition" section. If help is required to identify soil conditions of environmental concern, contact a Bayer CropScience representative.

For information on spray buffer zones required for the protection of water bodies and terrestrial habitat, please refer to the spray buffer zones specified under DIRECTIONS FOR USE.

Observe provincial guidelines or regulations that regulate treatment on slopes, establishment of spray buffer zones around water bodies and guidelines that prescribe the manner in which treatments may be applied. In the absence of such guidelines or regulations, read and observe the section "TREATMENT ON SLOPES".

SOIL DEFINITIONS:

Gravelly soils are soils having more than 70% by volume of coarse fragments (gravel, cobbles, or stones) with too little fine fraction to fill spaces larger than 1 mm.

Rocky soils are soils where 25-90% is occupied by rock outcrops and most of the remainder by shallow soils.

Light or coarse soils consist of sand, loamy sand, and sandy loam.

Medium soils consist of loam, silt loam, silt, sandy clay and sandy clay loam.

Heavy or fine soils consist of silty clay, silty clay loam, clay and clay loam.

TREATMENT ON SLOPES:

To reduce down-slope movement of the herbicide or treated soil particles into sensitive areas (for example aquatic systems or wetlands) consider the characteristics/conditions of the site before treatment. Site characteristics/conditions that may lead to such occurrences following heavy rainfall include compacted soils, fine textured soils, absence of organic layer, absence of harvest residue or forest floor litter and angle of slope. Potential for contamination of sensitive areas as a result of run off will be reduced by inclusion of spray buffer zones at or near the bottom of slope.

GENERAL INFORMATION

VELPAR DF VU HERBICIDE is a water dispersible granule to be mixed in water and applied as a broadcast spray for selective control of certain weeds and brush in woodland management areas (500 hectares or less of a wooded area or site to be planted to forest) and Christmas tree plantations. It is non-corrosive to equipment.

VELPAR DF VU HERBICIDE provides pre-emergence and post-emergence control of undesirable vegetation. Applications to plants before leaves are fully expanded are more effective than later treatments. Applications should not be made after target deciduous species have achieved full annual growth.

Foliar applications when vegetation is dormant or semi-dormant may not be effective in herbaceous plants. VELPAR DF VU HERBICIDE is absorbed through the roots and may demonstrate contact activity on foliage. There is, however, limited long-term effect on woody species following foliar application only. For brush control, soil applications are most effective.

Best results are obtained when VELPAR DF VU HERBICIDE is present in the root zone during active growth of the target vegetation. Symptoms usually appear in herbaceous plants within 2 weeks after application under warm, humid conditions, while 4 to 6 weeks may be required when

weather is cool. If rainfall after application is inadequate to activate VELPAR DF VU HERBICIDE in the soil, plants may recover from contact effects and continue to grow until sufficient rainfall moves VELPAR DF VU HERBICIDE into the root zone.

Symptoms usually appear within 3 weeks in actively growing woody plants after sufficient rainfall has carried the herbicide into the root zone. Defoliation and subsequent refoliation may occur until root reserves are exhausted at which time susceptible plants die. The degree of control and duration of effect will vary with amount of chemical applied, soil texture and organic matter, rainfall, temperature, weed or brush species, soil moisture, and other conditions.

Moisture is required to activate VELPAR DF VU HERBICIDE in the soil. The effectiveness of VELPAR DF VU HERBICIDE may be reduced as the level of organic matter in the soil increases.

DIRECTIONS FOR USE

Calibrate equipment before spraying. Do not use excessive agitation after initial mixing as foaming may result. Avoid storing mixed solutions of VELPAR DF VU HERBICIDE overnight where temperatures may fall below 7 degrees C. Do not apply more than 3.50 kg/ha per year. Do not apply to frozen or snow-covered soil. Avoid overlapping and shut off spray while starting, turning, slowing or stopping in order to avoid injury to desirable trees. Do not use mist blowers.

As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

WOODLAND MANAGEMENT (LESS THAN 500 HA) BROADCAST APPLICATIONS (Ground Application)

For the control of herbaceous vegetation and certain woody plants in reforestation areas and sites to be established as Christmas Tree plantations prior to planting conifers apply VELPAR DF VU HERBICIDE as a spray mixed in water to uniformly cover the soil surface. Apply as a coarse spray. Large droplets reduce the potential for drift and help ensure that VELPAR DF VU HERBICIDE reaches the soil surface. Apply the specified amount of VELPAR DF VU HERBICIDE in a minimum of 250 litres water per hectare.

Apply 3.50 kg of VELPAR DF VU HERBICIDE per hectare. If crystallization in the spray or mixing tanks is a problem, N-butyl alcohol may be added. Use the higher rate on fine textured soils high in organic matter and for hard to kill species. For medium textured soils, use the lower rate. On all soils, the higher rate will provide longer residual control. Do not use on gravelly soils, rocky soils or soils that are sandy or coarse textured.

Black spruce, white spruce, red pine and bare root jack pine stock may be planted immediately on medium and fine textured soils where the organic layer has not been removed following an application of 2.88 kg/ha. If rates greater than 2.88 kg/ha were used or if the organic layer has been removed or severely disturbed, or if lodgepole pine or container jack pine stock is to be planted, delay planting until the season following treatment.

SPECIES CONTROLLED BY BROADCAST APPLICATION:

Brome Grass	<i>Bromus spp</i>
Blue Joint Grass	<i>Calamagrostis spp</i>
Goldenrod	<i>Solidago spp</i>
Raspberries	<i>Rubus spp</i>

Ground Application:

Apply the specified amount of VELPAR DF VU HERBICIDE in a minimum of 250 litres of water per hectare.

APPLICATIONS TO ESTABLISHED CONIFERS (Conifer Release)

Christmas Tree Plantations (Balsam Fir, Red Pine, Scotch Pine, Black Spruce, White Spruce, Colorado Blue Spruce).

VELPAR DF VU HERBICIDE may be applied over established trees in both transplanted and naturally regenerating stands for control of certain herbaceous weeds and shrubs. Apply the specified amount in the spring after the ground has thawed but before flushing (bud break) of the conifers and before weeds have more than 5 cm of new growth.

Amount To Use:

Apply 672 g to 2.656 kg of VELPAR DF VU HERBICIDE per hectare, except on white spruce where the maximum rate is 2.016 kg per hectare. Choose from the rate ranges below to determine the appropriate amount for each weed. Within each rate range, the lower rate should be used on lighter soils, lower in organic matter; the higher rate on heavier soils high in organic matter.

Weeds Controlled By 672 g to 1.344 kg/ha:

Redroot pigweed
Barnyard grass

Weeds Controlled By 1.344 to 2.656 kg/ha

Redroot pigweed
Barnyard grass
Raspberry
Blackberry
Goldenrod

Perennial grasses including,
timothy, brome and quack grass

SPRAY APPLICATIONS:

Apply the specified dose in 100-300 litres water per hectare. Do not use excessive agitation after initial mixing as foaming may result. Avoid storing mixed solutions of VELPAR DF VU HERBICIDE overnight where temperatures may fall below 7 degrees C as crystallization may occur. If crystallization does occur, 2-4% v/v N-butyl alcohol may be added to the mixture. Avoid overlapping and shut off spray while starting, turning, slowing, or stopping in order to avoid injury to desirable trees. Do not apply to frozen or snow covered soil. Do not use mist blowers. If trees are too tall to permit uniform broadcast spray application, direct the spray below the lower branches.

Do not apply VELPAR DF VU HERBICIDE to extremely sandy or gravelly soils or to any soils with less than 1% organic matter. Do not apply where the terrain does not permit even and accurate application. Avoid treating fields that may be subject to erosion following improved weed control, or areas of fields that are wet or poorly drained. For information on spray buffer zones required for the protection of water bodies and terrestrial habitat, please refer to the spray buffer zones

specified under DIRECTIONS FOR USE. Do not apply to transplanted trees in the same season as transplanting.

REPLANTING TO OTHER CROPS:

Information enabling specific recommendations for rotational crops and recropping intervals is limited. Do not seed any crop treated with VELPAR DF VU HERBICIDE until a successful field bioassay shows that the crop in question may be grown safely. A successful field bioassay means growing to maturity a test strip of the crop across the field.

Persistence of VELPAR DF VU HERBICIDE in the soil is influenced by temperature, rainfall, soil type and organic matter.

Seeding of field bioassays is not recommended less than 24 months after the last VELPAR DF VU HERBICIDE application.

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact Bayer CropScience Inc. at 1-888-283-6847 for information before mixing any pesticide or fertilizer that is not specifically recommended on this label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Bayer CropScience Inc.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 8 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) very coarse classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

Spray buffer zones:

The spray buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop		Spray buffer Zones (metres) required for the protection of:				Terrestrial habitat
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field Sprayer	Woodland management (less than 500 ha)		2	1	1	1	NR
	Established conifers		2	1	1	1	4
Aerial	Woodland	Fixed	175	55	85	35	NR

	management (less than 500 ha)	Wing					
		Rotary Wing	75	30	40	25	NR

NR: Spray buffer zones for the protection of terrestrial habitats are not required for use in forestry and woodlot management.

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The spray buffer zones for Velpar DF VU Herbicide can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

INSTRUCTIONS FOR AERIAL APPLICATION:

Apply only by fixed-wing or rotary aircraft equipment, which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-888-283-6847 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum spray volume of 35 litres per hectare.

For information on spray buffer zones required for the protection of water bodies and terrestrial habitat, please refer to the spray buffer zones specified under DIRECTIONS FOR USE.

ENVIRONMENTAL PRECAUTIONS

Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

This product demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, VELPAR DF VU HERBICIDE is a Group 5 herbicide. Any weed population may contain or develop plants naturally resistant to VELPAR DF VU HERBICIDE and other Group 5 herbicides. The resistance biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- ◆ Where possible rotate the used of VELPAR DF VU HERBICIDE or other Group 5 herbicides with different herbicide groups that control the same weeds in a field.
- ◆ Use tank mixtures with herbicides from a different group when such use is permitted
- ◆ Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- ◆ Monitor treated weed populations for resistance development.
- ◆ Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- ◆ Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- ◆ For further information or to report suspected resistance, contact a Bayer CropScience representative at 1-888-283-6847 or at www.bayercropscience.ca.

STORAGE:

Store product in original container only. Store this product away from food or feed. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

DISPOSAL:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.

5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

NOTICE TO USER:

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

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