


(Container)

 **Dow AgroSciences**  
**Grazon\* P+D**  
**Herbicide Solution**

GROUP	4	HERBICIDE
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- Contains Picloram and 2,4-D
- For sale for use for the control of deep-rooted perennial and biennial broadleaf weeds on rangeland, permanent grass pastures and other non-cropland areas in Western Canada only.

COMMERCIAL

READ THE LABEL AND BOOKLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN

GUARANTEE: picloram 65 g/L  
2,4-D (isomer specific) 240 g/L  
(both present as trisopropanolamine salt)

REGISTRATION NO. 27634 PEST CONTROL PRODUCTS ACT

**CAUTION**  **POISON**

**MAY CAUSE SKIN AND EYE IRRITATION**  
**HARMFUL IF SWALLOWED**  
**MAY BE HARMFUL IF ABSORBED THROUGH SKIN**  
**DO NOT GET IN EYES**  
**AVOID CONTACT WITH EYES, SKIN AND CLOTHING**  
**AVOID BREATHING SPRAY MIST**  
**DO NOT INHALE FUMES**

NET CONTENTS: 10L

**Dow AgroSciences Canada Inc.**  
Suite 201, 1144-29 Avenue N.E.  
Calgary, Alberta  
T2E 7P1  
1-800-667-3852

\*Trademark of Dow AgroSciences LLC

## **PRECAUTIONS**

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## **PROTECTIVE CLOTHING AND EQUIPMENT**

**Handling the concentrate (mixing and loading):** Wear long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes, and protective eye wear (face shield or safety glasses). Rinse gloves before removal.

Coveralls or a chemical-resistant apron should also be worn when open pouring from containers.

**Handling the dilute spray solution (during application or repairing or cleaning equipment):** Wear a long-sleeved shirt, long pants, chemical resistant gloves, socks and shoes. Rinse gloves before removal.

Gloves are not required during application when applicator is in an enclosed tractor.

## **MIXING**

### **Mechanical Transfer System**

**10 L containers:** Manufacturers are required to incorporate a built-in plastic spout on the containers, to minimize spillage and exposure.

**110 L Containers:** Use a transfer system that avoids open pouring when transferring the liquid concentrate from such containers into the spray tank.

## **OPERATOR USE PRECAUTIONS**

- Wear freshly laundered clothing and clean protective equipment daily.
- Rinse gloves before removal.
- Wash hands before eating, drinking, using tobacco or using the toilet.
- If herbicide penetrates clothing remove immediately; then wash thoroughly and put on clean clothing. Throw away clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.
- After using this product, remove clothing and launder separately and promptly and thoroughly wash hands and exposed skin with soap and water. Follow manufacturer's instructions for cleaning personal protective clothing and equipment. If no such instructions for washables are provided, use detergent and hot water. Keep and wash personal protective equipment separate from household laundry.
- After work, remove all clothing and shower using soap and water.

## **PHYSICAL OR CHEMICAL HAZARDS**

**COMBUSTIBLE.** Keep away from heat and open flame.

**FIRST AID**

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

**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 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 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.

**TOXICOLOGICAL INFORMATION**

If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

**AGRICULTURAL CHEMICAL**

**Do not ship or store with food, feeds, drugs or clothing.**

**ENVIRONMENTAL HAZARDS**

This product is toxic to some plants at very low concentrations. Non-target plants may be adversely affected if pesticide is allowed to drift from areas of application. Avoid application in the vicinity of sensitive plants and **do not** allow spray or run-off to drift and contact desirable plants.

**Avoid contamination** of non-target land, surface and sub-surface or irrigation ditches. **Do not** use this product in the following areas: standing or flowing water, the inner banks or bottoms of irrigation ditches, in areas where surface water can run off to adjacent croplands either planted in or to be planted to sensitive crops, where the product can leach into ground water or where it can contact desirable plants. See section on GENERAL USE PRECAUTIONS, USE PRECAUTIONS, and PRODUCT SPECIFIC PRECAUTIONS for further restrictions to avoid contamination of water and phytotoxicity.

This product is moderately toxic to fish. **Do not** apply directly to any water bodies or in areas where the runoff from treated areas will reach fish-bearing waters. **Do not** allow run-off or spray to contaminate any sensitive aquatic habitats including sloughs, coulees, ponds, prairie potholes, lakes, rivers, streams, and wetlands or areas where the product can leach into ground water, wells, or any surface or sub-surface body of water used for irrigation or domestic purposes. **Do not** contaminate these habitats when cleaning and rinsing spray equipment or containers.

Buffer Zones: Appropriate buffer zones should be established between treatment areas and aquatic systems and treatment areas and significant wildlife habitat.

**STORAGE**

Do not store Grazon P+D near food, feedstuffs, fertilizers, seeds, insecticides, fungicides or other pesticides or herbicides intended to be used on picloram sensitive crops.

## **DISPOSAL**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:


1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

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 clean-up 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. The user assumes the risk to persons or property that arises from any such use of this product.

(Booklet)

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**Grazon\* P+D**  
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This product is moderately toxic to fish. **Do not** apply directly to any water bodies or in areas where the runoff from treated areas will reach fish-bearing waters. **Do not** allow run-off or spray to contaminate any sensitive aquatic habitats including sloughs, coulees, ponds, prairie potholes, lakes, rivers, streams, and wetlands or areas where the product can leach into ground water, wells, or any surface or sub-surface body of water used for irrigation or domestic purposes. **Do not** contaminate these habitats when cleaning and rinsing spray equipment or containers.

Buffer Zones: Appropriate buffer zones should be established between treatment areas and aquatic systems and treatment areas and significant wildlife habitat.

**STORAGE**

Do not store Grazon P+D near food, feedstuffs, fertilizers, seeds, insecticides, fungicides or other pesticides or herbicides intended to be used on picloram sensitive crops. Store in heated storage. If frozen, bring to room temperature and agitate vigorously before mixing with water.

**DISPOSAL****Recyclable Containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

#### **Returnable Containers:**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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 clean-up of spills.

#### **GENERAL INFORMATION**

Use Grazon P+D Herbicide Solution to control deep-rooted perennial and biennial broadleaf weeds on rangeland, permanent grass pastures and other non-cropland areas in Western Canada. **Read all precaution statements before using this product.** For more information or help, contact your local Dow AgroSciences representative.

#### **GENERAL USE PRECAUTIONS**

Certain environmental conditions may increase the potential for herbicides to move in water, through the soil and enter an underlying aquifer<sup>†</sup>. These environmental conditions include:

- Soils that are very permeable (textures of sandy loam to sand) throughout the entire profile and which also have an underlying shallow aquifer.
- Soils containing sinkholes over limestone bedrock.
- Surfaces composed of severely fractured rock or unconsolidated gravels and underlaid with an aquifer.

The above conditions may permit direct movement of herbicides, including those containing picloram, to underlying aquifers.

To help identify areas of concern, a Dow AgroSciences representative can be contacted for additional information and assistance towards doing site inspections.

<sup>†</sup>An aquifer is "an underground, saturated, permeable, geologic formation capable of producing significant quantities of water to a well or spring. It is the ability of the saturated zone, or portion of that zone, to yield water which makes it an aquifer" (American Chemical Society, 1983).

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at: [www.croplife.ca](http://www.croplife.ca)

#### **Sensitive Plants**

Herbicidal effects of Grazon P+D occur primarily from uptake by plant foliage and translocation throughout the plant, however, secondary herbicidal action may occur from soil uptake of picloram. Very small amounts can kill or damage sensitive broadleaf plants. Care should be taken to avoid spraying desirable broadleaved plants during both growing and dormant periods. Grazon P+D should not be applied to the foliage of target vegetation near areas planted to crops such as legumes (peas, lentils, alfalfa, clover), beans, soybeans, canola, potatoes, tobacco, grapes, tomatoes, flowers, ornamental shrubs and trees or other desirable broadleaved crops. Do not apply Grazon P+D within the area occupied by roots of desirable trees unless injury can be tolerated. In addition, care should be taken to avoid contaminating soil



in which sensitive crops will be grown. Clippings from vegetation which has been treated with Grazon P+D should not be used for composting or mulching, nor should the manure from animals grazing treated areas be used around susceptible plants, because picloram residues pass through the animal unchanged and are still herbicidally active.

**On areas treated with this product, do not rotate to crops intended for food or feed use**, other than range or pasture grasses, wheat, barley or oats not underseeded with a legume, **do not move treated soil, or use treated soil for growing other plants** until soil residues of picloram are no longer detectable as indicated by an adequately sensitive bioassay or chemical test.

**Do not spray pastures if the injury to existing forage legumes cannot be tolerated.** Grazon P+D may injure or kill legume plants. Forage legumes may be less sensitive to the herbicide after the seed has set and plant growth is mature.

**Established grasses are tolerant to this product**, but newly seeded grasses may be injured until well established as indicated by tillering, development of a secondary root system and vigorous growth.

**Do not transfer livestock** from treated grazing areas onto broadleaf crop areas without first allowing 7 days of grazing on untreated grass pasture. Otherwise, urine may contain enough picloram to cause injury to sensitive broadleaf plants.

**Do not mix with dry fertilizer.**

**Do not use on sub-irrigated land.**

#### PREHARVEST/GRAZING INTERVALS

- Do not allow lactating dairy animals to graze the treated areas within 7 days after application.
- Do not harvest grass for hay within 30 days after application.
- Withdraw meat animals from treated fields at least 3 days before slaughter.

#### BROADCAST GROUND APPLICATION

##### Directions for Use

##### Application Rates for Grazon P+D Herbicide Solution:

Weed Species	Amount per Hectare (litres)
Canada thistle, dandelion, common yarrow	3.7 L
In addition to the above weeds: sweet and red clover, wild carrot, common ragweed, goldenrod, dock, plantain, prickly lettuce, burdock, fleabane, vetch	7.0 L

**Broadleaved Weed Control:** Apply 3.7 to 7.0 L/ha of Grazon P+D in 100 - 200 L/ha of total spray volume. Use enough water to wet weeds without run-off. Apply in spring or early summer when fully developed green leaves are present. Use higher rates in areas with dense weed populations or for a more extended control. For best results in terms of foliage response, desirable forage grasses should be present in the area to be treated in sufficient density to provide competition to lessen weed re-establishment following treatment. Additionally, good grazing management practices are recommended, particularly in the year following treatment, to allow forage grass density to increase.

Spray drift could cause injury to trees and other desirable broadleaved plants outside the desired treatment area and may render soil unproductive for sensitive broadleaved plants. Stay back a minimum 1.5 times the height of desirable trees to prevent unwanted root uptake.

With ground broadcast methods of application, use the pressures recommended by the nozzle manufacturer to minimize production of fines, and choose nozzle tips that produce coarse droplets (VMD >400 microns,  $V_{0.1}$  >210 microns, and  $V_{0.9}$  <850 microns). The use of nozzles designed to minimize drift is recommended, such as an air induction or venturi nozzle.

**NOTE: Legumes are susceptible to Grazon P+D. Do not spray pastures containing forage legumes unless the loss of such legumes can be tolerated.**

## BROADCAST AERIAL APPLICATION

### Directions for Use

#### Application Rates for Grazon P+D Herbicide Solution:

Weed Species	Amount per Hectare (litres)
Canada thistle, dandelion, common yarrow	3.7 L
In addition to the above weeds: sweet and red clover, wild carrot, common ragweed, goldenrod, dock, plantain, prickly lettuce, burdock, fleabane, vetch	7.0 L

**Broadleaved Weed Control:** Apply 3.7 L to 7.0 L of Grazon P&D per hectare in a minimum spray volume of 20 L/ha.

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 *Basic Knowledge Requirements for Pesticide Education in Canada: Applicator Core and Aerial Module*, developed by CAPCO.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

### **Operator Precautions**

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.

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

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.

### **Product Specific Precautions**

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-800-667-3852 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:

- **Buffer Zones:** Appropriate buffer zones should be established between treatment areas and aquatic systems and treatment areas and significant wildlife habitat.
- Use the lower end of recommended spray pressure recommended by the nozzle manufacturer. Avoid placing nozzles where spray will enter wing tip vortices.
- Aerial application should be made as close to the ground as possible while maintaining adequate coverage.
- Do not apply this product directly to, or otherwise permit it to come into direct contact with desirable crops or other desirable broadleaved plants or non-target species and do not permit spray mists to drift onto them.
- Spray drift could cause injury to trees and other desirable broadleaved plants outside the desired treatment area and may render soil unproductive for sensitive broadleaved plants.
- To prevent contamination of adjacent surface water including lakes, ponds and streams, strict adherence to provincial setbacks from water is essential.

### **AERIAL APPLICATION PARAMETERS**

#### **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:** Use the pressures recommended by the nozzle manufacturer to minimize production of fines, and choose nozzle tips that produce coarse droplets. For many nozzle types lower pressure produces larger 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 produced larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Increase spray volume by choosing a nozzle with a larger orifice.

**Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Coarse sprays are less likely to drift, use only nozzles or nozzle configuration which minimize the production of fine spray drops. Choose a nozzle that provides a coarse sized droplet, and consistency in droplet size (VMD >350 microns,  $V_{0.1}$  >210 microns, and  $V_{0.9}$  <700 microns). Flat Fan or CP nozzles are recommended for aerial application. When spraying, avoid combination of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 65% of the wingspan or rotor length may further reduce drift without reducing swath width.

Do not use human flaggers.

**Wind:** Drift potential is lowest at low wind speeds. Many factors, including droplet size and equipment type determine drift potential at any given speed. Caution should be exercised when winds are below 2 kph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Applicators 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 local, low level 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 the 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, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

**Determine Air Movement and Direction Before Making Foliar Applications:** Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movements, lapse conditions, or temperature inversions (stable air). If the smoke layers or otherwise indicates a potential for hazardous spray drift, do not spray.

**RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, Grazon P+D is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Grazon P+D and other Group 4 herbicides. The resistant 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 use of Grazon P+D or other Group 4 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 Dow AgroSciences Canada Inc. at 1-800-667-3852 or at [www.dowagro.ca](http://www.dowagro.ca).

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