



Dow AgroSciences

Tordon™ 22K

Herbicide

GROUP	4	HERBICIDE
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For the control of deep-rooted perennial and biennial weeds on rangeland, permanent grass pastures and non-cropland in Canada.

COMMERCIAL

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

GUARANTEE: picloram 240 g/L
(formulated as potassium salt)

Solution

REGISTRATION NO. 9005 PEST CONTROL PRODUCTS ACT

CAUTION  **POISON**

DANGER: EYE IRRITANT
MAY CAUSE SKIN IRRITATION
POTENTIAL DERMAL SENSITIZER

NET CONTENTS: 1 L - bulk

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PRECAUTIONS
DANGER - EYE IRRITANT
MAY CAUSE SKIN IRRITATION
DO NOT APPLY BY AIR

Do not get in eyes, on skin or on clothing. Avoid breathing spray mist. Keep container closed when not in use. When handling concentrate wear protective eyewear (goggles, face shield or shielded safety glasses) and impervious gloves. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes.

During mixing, loading, repair and clean-up activities wear a long-sleeved shirt, long pants, shoes plus socks, protective eyewear (goggles, face shield or shielded safety glasses) and chemical-resistant gloves.

During application to rangeland and permanent grass pastures wear a long-sleeved shirt, long pants, shoes plus socks, and chemical-resistant gloves.

During application to non-crop land wear a long-sleeved shirt, long pants, shoes plus socks, protective eyewear (goggles, face shield or shielded safety glasses) and chemical-resistant gloves.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

Do not apply this product in a way that this product will contact workers or other persons, either directly or through drift. Only handlers (mixers, loaders and applicators) wearing personal protective equipment may be in the area being treated during application. See **DIRECTIONS FOR USE** for crop specific REIs.

Prolonged or frequently repeated contact may cause allergic reactions in some individuals.

For pastures and rangelands: Do not permit lactating dairy animals to graze fields within 7 days after application. Do not harvest forage or cut hay within 30 days after application. Withdraw meat animals from treated fields at least 3 days before slaughter.

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 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.

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.

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

- Do not apply to any water bodies or in areas where the runoff from treated areas will reach fish-bearing waters. Do not contaminate water through spray drift, by cleaning of equipment or disposal of wastes.
- Do not apply to irrigation ditches that contain or may contain water to be used for irrigation or domestic purposes.
- TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.
- Do not apply to soils that are very permeable (textures of sandy loam to sand) throughout the entire profile and which also have an underlying shallow aquifer.
- Do not apply to soils containing sinkholes over limestone bedrock.
- Do not apply to soils whose surfaces are composed of severely fractured rock or unconsolidated gravel and underlaid with an aquifer.
- Picloram is persistent and will carryover. It is recommended that any products containing picloram not be used in areas treated with this product during the previous season.
- The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.
- 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 strip between the treated area and the edge of the water body.

STORAGE

Do not store near food, foodstuffs, fertilizers, seeds, insecticides, fungicides or other pesticides.

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.

DIRECTIONS FOR USE

Use Tordon 22K herbicide to control patches of biennial and deep-rooted perennial weeds including Canada thistle, perennial sow-thistle, field bindweed, toadflax, pasture sage and scentless chamomile on rangeland, permanent grass pastures and on non-cropland areas such as around farm buildings,

fencerows, roadsides and other rights-of-way including electrical transmission and distribution lines, railroads and pipelines in Canada. Tordon 22K is highly active, water-soluble and can be persistent under certain environmental conditions (see section entitled ENVIRONMENTAL HAZARDS). For further information to help prevent damage to desirable crops and plants, consult your District Agriculturalist or nearest weed specialist for local recommendations and guidance.

USE PRECAUTIONS

DO NOT APPLY BY AIR

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) coarse classification. Boom height must be 60 cm or less above the crop or ground.

Do not allow spray drift. Herbicides containing picloram are highly active. Tiny amounts may cause damage to plants if applied during either growing or dormant periods. Use only low pressure sprays (150 to 350 kPa) or other equipment designed to minimize the danger of spray drifting onto desirable plants such as vegetables, flowers, grapes, fruit trees, ornamentals, tomatoes, potatoes, beans of all types including soybeans and other broadleaved plants. Keep away from trees and shrubs as their roots may extend well beyond their limbs and branches. Apply Tordon 22K only when there is little movement of air and use coarse sprays to minimize drift. Do not apply by air as this increases drift hazard.

Do not apply Tordon 22K to irrigated land or land to be irrigated.

Do not contaminate water. Do not treat the banks of irrigation or drainage ditches and avoid spray drift falling into them to avoid contaminating water used for irrigation. Dike around and avoid irrigation through treated areas. Water used for drinking, irrigation and other domestic purposes must not be contaminated.

Do not move treated soil. Soil from treated areas must not be moved with land levelers, harvesting and cultivation equipment or by any other means into land in crop.

Tordon 22K is not to be used for domestic purposes or for use by Commercial Pesticide Applicators in residentially zoned areas.

For use on industrial/commercial zoned areas, including rights-of-way that traverse urban areas. Contact appropriate provincial regulatory authorities before use to determine if buffer zones/setback distances are required to be maintained between the treated area (right-of-way) and the residential area.

Do not treat areas intended to be used for cultivated sensitive crops or other desirable plants. It usually requires up to five years for herbicides containing picloram to be deactivated by the soil. Clippings from grass or crops which have been treated with Tordon 22K should not be used for composting or mulching, nor should the manure from animals grazing treated areas or fed treated forage be used around susceptible plants.

To avoid injury to desirable plants, containers used for Tordon 22K should not be reused to contain other materials. Spray equipment used to apply Tordon 22K should not be used to apply other pesticides to crops susceptible to herbicides containing picloram. If it is necessary to do so, contact your Dow AgroSciences Vegetation Management Specialist for detailed equipment clean-up procedures.

For pastures and rangelands: Do not permit lactating dairy animals to graze fields within 7 days after application. Do not harvest forage or cut hay within 30 days after application. Withdraw meat animals from treated fields at least 3 days before slaughter.

- Do not apply more than once per year.
- For non-crop uses: Do not enter or allow entry into treated areas during the restricted-entry interval (REI) of 12 hours or until sprays have dried.
- DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

Be Sure To Follow All Use Precautions Given On This Label And Remember These Key Points:

1. Use only the recommended amounts.
2. Tordon 22K is persistent. It will carry over in soil. Treated soil should not be moved out of the treated area.
3. Picloram is very difficult to clean from sprayers. Use a different sprayer for applying other materials to desirable plants or crops. Hand guns equipped with proportioning devices and reservoirs for Tordon 22K are useful in preventing sprayer contamination. With these devices, the farm sprayer is used only as a water reservoir.
4. Tordon 22K is water-soluble. It can move with water in irrigation or drainage ditches.
5. Spray drift can damage crops.

Tank Mixtures

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 Dow AgroSciences Canada Inc. at 1-800-667-3852 or www.dowagro.ca 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 Dow AgroSciences Canada Inc.

Sprayer Clean-Out Instructions

To avoid injury to desirable plants, thoroughly clean equipment used to apply this product before re-use or using it to apply other chemicals.

1. Immediately after spraying, completely drain the sprayer tank. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.
2. First rinse:
 - Spray the inside of tank with clean water and fill the sprayer with at least one tenth of the spray tank volume.
 - Agitate and circulate for 15 minutes, and flush through booms and hoses.
 - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
 - Drain tank completely.
3. Second rinse:
 - Fill the tank with clean water.
 - Add All Clear Spray Tank Decontaminator, or Clean-Out Spray Tank Cleaner, or 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water, or similar tank cleaning agent as per manufacturer's recommendations while filling the tank with clean water.
 - Agitate and then flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full. Allow to stand for 15 minutes with agitation. Flush the solution out of the spray tank through the spray booms. Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
 - If possible, let the solution stand in the sprayer tank and booms for an extended period of time, overnight if possible.

- After flushing the boom and hoses, drain tank completely.
 - Remove nozzles and screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water).
4. Third rinse:
- Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume.
 - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
 - Drain tank completely.

Do not use ammonia with chlorine bleach. Using ammonia with chlorine bleach will release a gas with a musty odour which may cause eye, nose, throat and lung irritation. Do not clean equipment in an enclosed area.

GENERAL USE

The rate of Tordon 22K required varies according to the weed species and plant density (see Table 1 and 2). Use enough water to wet the weeds without run-off, 400 to 800 L of spray per treated hectare is usually required. For small areas mix as directed in 18 L of water and apply 18 L of spray mixture per 100 m².

For use as a spot treatment and broadcast foliar application on perennial weeds, mix at the rates given in Table 1 and 2. Apply at the rate of 800 L of spray mixture per treated hectare. For small areas use the rates given for treating 100 m² and apply in 18 L of water. For patches apply as indicated in Table 3.

Table 1: Spot Treatment Application on High Plant Densities

Weed Species	Amount per 100 m ² (mL)
High plant densities: field bindweed leafy spurge toadflax	90*

* spot treatment rate of 90 mL per 100 m² may be used provided no more than 50% of a hectare is treated.

Table 2: Tordon 22K Broadcast Foliar Application Rates

Weed Species	Amount per Hectare (litres)	Amount per 100 m ² (mL)
scentless chamomile	1.1	11
diffuse or spotted knapweed	2.25	22
Canada thistle pasture sage poverty weed Russian knapweed sowthistle	4.5	45
Low plant densities: field bindweed leafy spurge toadflax	4.5	45

Table 3: Patch Application Rates

Diameter of Patch to be Treated (Weed area plus 3 m border)	Litres of Spray Mixture to Apply
10 m	6.25
15 m	14
25 m	40
30 m	57
70 m	308

DIRECTIONS FOR USE - RANGELAND, PERMANENT GRASS PASTURES AND OTHER NON-CROPLAND AREAS

Mix with water and apply as a coarse, low pressure spray (150 to 350 kPa) or use other equipment designed to minimize spray drift. Apply any time when fully developed green leaves are present.

NOTE: Legumes are susceptible to Tordon 22K. Do not spray pastures containing forage legumes unless the kill of such legumes can be tolerated. Do not graze treated area by dairy animals within 6 weeks after treatment.

TANK-MIX COMBINATIONS WITH TORDON 22K HERBICIDE

When a tank mixture is used, follow all precautions, directions for use and limitations on the tank-mix partner label.

Tank-Mix Combination – Tordon 22K Herbicide plus 2,4-D Amine

Tordon 22K Herbicide can be tank mixed with 2,4-D amine herbicide (present as dimethylamine salt) to broaden the spectrum of broadleaf weeds, invasive plants, trees and woody species controlled.

Apply 1.55 – 4.45 kg a.e/ha of 2,4-D amine* (present as dimethylamine salt and equivalent to 2.75 – 7.90 L/ha of 2,4-D amine 600 herbicide) tank mixed with 1.1 – 4.67 L/ha of Tordon 22K Herbicide.

*Various manufacturers and formulations. Consult the 2,4-D amine label for details on rates and weeds, brush and woody growth controlled. When a tank-mixture is used, follow all precautions, directions for use and limitations on the tank-mix partner label.

Directed Leaf-Stem Applications With Single Nozzle Application Equipment

For control of woody plants, use 2.71 L of Tordon 22K Herbicide plus 2.4 kg a.e of 2,4-D amine (equivalent to 4.26 L of 2,4-D amine 600 herbicide) in 1000 L of water and apply to woody plants after the foliage is fully developed. Maximum 1 application per year. The spray solution should thoroughly wet all plant parts including foliage and stems and should be applied when plants are actively growing to achieve the maximum control. Application made when the foliage has lost its normal green colour and vigour may not give satisfactory results.

For faster burndown of coniferous species use a silicone based surfactant such as Xiameter OFX-0309 Fluid at the rate of 0.25% by volume (250 mL per 100 L of water). If maximum rainfastness is desired increase the rate to 0.375% (375 mL per 100 L of water). Xiameter OFX-0309 Fluid should be added after the herbicide is thoroughly mixed. Agitate to thoroughly mix the water, Xiameter OFX-0309 Fluid, Tordon 22K Herbicide and 2,4-D amine herbicide. Apply soon after mixing. Do not prolong application for longer than 24 hours after mixing.

When applying Tordon 22K Herbicide plus 2,4-D amine herbicide with ground application equipment, the spray pressure at the nozzle should be no higher than is required for penetration of the target vegetation. The spray should always be directed toward the target, away from non-target, susceptible plants and no higher than the tops of the target plants. To aid in reducing spray drift, a nozzle and pressure should be selected which produces coarse spray droplets and minimizes production of fine droplets. Do not use high spray pressures in order to reach distant vegetation.

Broadcast Foliage Application

Woody Plant Control: Apply 4.67 L/ha of Tordon 22K Herbicide plus 4.15 kg a.e./ha of 2,4-D amine (equivalent to 7.36 L/ha of 2,4-D amine 600 herbicide) in 200 L of total spray to control brush such as alder, birch, cedar, maple, pine, poplar, spruce and other species. Control of conifers or other hard-to-control brush species may be inconsistent. Maximum 1 application per year.

For faster burndown of coniferous species use a silicone based surfactant such as Xiameter OFX-0309 Fluid at the rate of 0.25% by volume (250 mL per 100 L of water). If maximum rainfastness is desired increase the rate to 0.375% (375 mL per 100 L of water). Xiameter OFX-0309 Fluid should be added last after the herbicide is thoroughly mixed. Agitate to thoroughly mix the water, Xiameter OFX-0309 Fluid, Tordon 22K Herbicide and 2,4-D amine herbicide. Apply soon after mixing. Do not prolong application for longer than 24 hours after mixing.

BUFFER ZONES TO PROTECT SENSITIVE HABITATS

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.

DO NOT apply by air.

BUFFER ZONES

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment.

For application to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (e.g., wind direction, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

The 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	Buffer Zones (metres) Required for the Protection of:		
		Aquatic Habitat of Depths:		Terrestrial habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Rangeland and permanent grass pastures, non-cropland including rights-of-way	4	2	120*

* Buffer zones for the protection of terrestrial habitats are not required for use on rights-of-way including railroad ballast, rail and hydro rights-of-way, utility easements and roads.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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 buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, Tordon 22K Herbicide is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to Tordon 22K Herbicide 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 Tordon 22K Herbicide 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.

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.

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Label code: CN-9005-006-E

Replaces: CN-9005-005-E

Specimen Label notes:

Add control of control leafy spurge, toadflax and field bindweed