AUGUST2020

Bag/Container Label

GROUP 20 HERBICIDE

CASORON® G-4

Granular Herbicide

contains dichlobenil

COMMERCIAL

READ THE LABEL BEFORE USING

ACTIVE INGREDIENT: Dichlobenil 4%

REGISTRATION NO. 12533
PEST CONTROL PRODUCTS ACT

Arysta LifeScience Canada Inc.
400 Michener Road, Unit 2
Guelph, ON N1K 1E4

For Product Use Information Call 1-866-761-9397

FOR 24-HOUR MEDICAL EMERGENCY ASSISTANCE CALL PROPHARMA:
1-866-303-6952 or +1-651-603-3432.

FOR CHEMICAL EMERGENCY: spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300

xxxxxxV009

NET CONTENTS: 1 kg to 25 kg

PRECAUTIONS:

- **KEEP OUT OF REACH OF CHILDREN**. Harmful if swallowed. Avoid breathing dust. Avoid skin or eye contact. Avoid contamination of feed and foodstuffs.
- Wear long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves during mixing, loading, application, clean up and repair. Gloves are not required during ground boom application within a closed cab.
- Do not apply directly by hand.

FIRST AID:

If swallowed: call a poison control centre or doctor immediately for treatment advice. Have a 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.

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 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

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

TOXICOLOGICAL INFORMATION: Treat symptomatically.

STORAGE AND DISPOSAL:

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Keep container closed. Do not store in direct sunlight. Do not store above 35°C or below 0°C.

DISPOSAL:

1. Follow provincial instructions for any required cleaning of the container prior to its disposal.
2. Make the empty container unsuitable for further use.
3. Dispose of the container in accordance with provincial requirements.
4. For information on the 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.

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GENERAL INFORMATION

CASORON® G-4 Granular Herbicide provides weed control in established plantings of Woody Ornamentals, Fruit trees, Nurseries, Shelterbelts, Hedgerows, Windbreaks, Poplar Plantations, Grapes, Saskatoons, Cranberries, Raspberries (including red and black) Blueberries (highbush and lowbush) and Currants (red and black).

CASORON G-4 Granular Herbicide is recommended for control of many annual grasses, broadleaf weeds and certain perennial weeds including:

Annual bluegrass	Foxtail	Pigweed
Artemisia*	Groundsel	Plantain
Bindweed*	Horsetail	Purslane
Bittercress	Grasses (Sedges and Juncus species)	Sheep Sorrel*
Blue aster	Knotweed	Shepherd's-purse
Bracken fern	Kochia	Smartweed
Canada thistle*	Lamb's-quarters	Sow thistle
Chickweed	Loosestrife	Spurge
Crabgrass	Mustard	Vetch*
Quack grass*	Nutsedge*	Wild buckwheat*
Dandelion*		

*Controlled with the higher rates and late fall applications.

MODE OF ACTION:

CASORON G-4 Granular Herbicide is a soil-active herbicide with the active ingredient dichlobenil. It controls broad leaved and grassy weeds at weed germination and weed growth initiation. **CASORON G-4 Granular Herbicide** inhibits cell growth at the growing points or meristematic tissues of the plant. Weed germination and growth initiation is strongly affected. Under certain environmental conditions Dichlobenil can be volatile. It is recommended that **CASORON G-4 Granular Herbicide** be applied when the temperature is less than 15°C. Applying at higher temperatures may reduce its herbicidal activity. Water is necessary to move the compound into the soil. **CASORON G-4 Granular Herbicide** will stay in the upper 10 cm of soil and will not harm established plants with a well-developed root system below this herbicide barrier.

RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, **CASORON G-4 Granular Herbicide** is a Group 20 herbicide. Any weed population may contain or develop plants naturally resistant to **CASORON G-4 Granular Herbicide** and other Group 20 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 **CASORON G-4 Granular Herbicide** or other Group 20 herbicides within a growing season (sequence) or among growing seasons 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. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group.

Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- 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 Arysta LifeScience Canada Inc. at 1-866-761-9397.

DIRECTIONS FOR USE:

CASORON G-4 Granular Herbicide is a ready to use granular product. It can be spread on the soil surface by hand, using small hand held or backpack equipment, or by larger and tractor mounted spreaders. Soil should be moist after application to activate the product. A light precipitation after application to moist soil is preferred. When a dry period is expected after application, incorporate or water in the product. Covering with moist mulch is also effective.

To minimize surface water contamination when used on cranberries, all effluent water must be impounded and held for one day prior to release.

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

DO NOT apply to any body of water.

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

DO NOT USE backpack airblast equipment.

DO NOT apply more than 0.8 kg a.i./day (20 kg product/day) when using small handheld equipment. DO NOT apply more than 3 kg a.i./day (75 kg product/day) if using push-type granular spreaders.

Annual Weed Control: Apply **CASORON G-4 Granular Herbicide** to well-prepared weed-free soil in early spring or late fall before annual weed seeds have germinated. If annual weeds have started to germinate before application cultivate to remove them. Apply granules uniformly over the soil surface.

Do not apply until 4 weeks after transplanting any crop. **CASORON G-4 Granular Herbicide** should not be applied during periods when the soil temperature is high. These usually occur when air temperatures are greater than 15°C.

For use on agricultural crops:
Do not enter or allow worker entry into treated areas within 12 hours of application.

For horticultural/nursery uses:
Do not enter or allow worker entry into treated areas within 24 hours of application.

DO NOT apply using aerial application equipment.

RATE OF APPLICATION:

Apply 110-175 kilograms of **CASORON G-4 Granular Herbicide** per hectare. The amount of **CASORON G-4 Granular Herbicide** used should be based on the area actually treated. Do not use on light sandy soil. Lower rates on this label can be used if application is followed immediately by an application of 1.3 to 2.5 centimeters of water by overhead irrigation. Use the high rate in the use range only every other year.

Treating smaller areas or calibrating:

CASORON G-4 Granular Herbicide per Area Treated

Hectare	1mx1m	1.5mx1.5m	2mx2m	2.5mx2.5m	3mx3m
110 kg	11 gm	25 gm	45 gm	70 gm	100 gm
175 kg	17 gm	40 gm	70 gm	110 gm	160 gm

ESTABLISHED PLANTINGS OF WOODY ORNAMENTALS, NURSERIES AND SHELTERBELTS*, HEDGEROWS AND WINDBREAKS*: CASORON G-4 Granular Herbicide may be used for annual weed control with repeat applications each year at the lower rate for maintenance weed control. Use the high rate (175 Kg / Ha) to control grasses and tough perennial weeds every other year at most. The lower rate, 110 Kg/Ha can be used the following year for annual weed control. Follow directions listed above. Apply by ground only.

CASORON G-4 Granular Herbicide may be used for weed control on the plants listed below. Follow application directions.

Arborvitae	Elm	Locust
Ash	Euonymus	Maple
Barberry	Forsythia sp.	Mock orange
Birch (Cut Leaf Weeping)	Heather	Poplars
Boxwood	Holly (*Ilex* spp.)†	Rhododendron
Caragana	Honeysuckle	Rose
Cedar (Eastern Red)	Juniper	Spirea
Cedar (White)	Lilac	Willow
Crabapple	Linden	Yew (Taxus)

* only trees listed above should make up the Shelterbelts, Hedgerows, Windbreaks
† Holly (*Ilex* spp. Except *I. crenata, I. rotunda, I. vomitoria*)

Note: Do not use on:

Gladiolus	Firs (Abies species such as *Balsam Fir* [Abies concolour])	
Ajuga	*Ilex crenata*	Hemlock
Ilex rotunda	*Ilex vomitoria*	Spruce
Herbaceous Perennials†	Mugho pine	

† avoid use on plants which die down to the ground in the fall use with caution on shallow rooted ground covers (Euonymus can be treated), and other plants from list above.

CONTAINER NURSERY STOCK: Apply **CASORON G-4 Granular Herbicide** at 100 kg per hectare. Water in immediately after application. Apply by ground only.

For use on these specific species:
Juniper - *Juniperus chinensis*
- *Juniperus horizontalis*
Eastern White Cedar - *Thuja occidentalis*
For the control of the weeds mentioned earlier on this label plus Bittercress.**Note**: Observe these use guidelines.

DO NOT USE IN OR NEAR GREENHOUSES

Wait to apply **CASORON G-4 Granular Herbicide** for at least four (4) weeks after transplanting into containers. Use only on established container plants growing outside in the open air. Do not use in seedbeds, transplant or cutting beds or in greenhouses. Do not use after September 15 or within thirty (30) days of potting treated stock into a container holding house as damage to the crop may occur. Use only on potting mixes that have a minimum of 80% pure organic matter. Lower amount of organic matter may increase risk of injury to the crop.

Only small numbers of containers should be treated until a grower has experience with this application. For further information contact provincial government authorities.

FRUIT TREES AND FRUIT TREE NURSERIES:
CASORON G-4 Granular Herbicide may be used for weed control around bearing fruit trees and established second year orchard stock of the following:

APPLE, CHERRY, PEACH, NECTARINE, PEAR, AND PLUM. Follow directions for broadcast or band

(herbicide strip) tree area only application. Refer to precautions for timing with transplants. Do not apply to trees within 3 months either before or after grafting or budding of root stocks or planting of new grafts. Do not apply more than the maximum recommended amount per growing season. Apply by ground only.

NEWLY PLANTED APPLE TREES: (in British Columbia only). May be treated with **CASORON G-4 Granular Herbicide** four weeks after new trees are planted in the orchard but prior to weed growth. Apply 110-175 kg per hectare total per season. Use the lower rate on lighter soils. Use the high rate in the use range only every other year. Under warm growing conditions, immediately after application of the **CASORON G-4 Granular Herbicide** apply 1.3 to 2.5 cm of water by overhead irrigation. Do not apply using aerial application equipment.

POPLAR PLANTATIONS: For control of many annual grasses, broadleaf weeds and certain perennial weeds as listed in Directions for Use section. **CASORON G-4 Granular Herbicide** should be applied to poplar plantations by ground only. Apply 110-174 kg **CASORON G-4 Granular Herbicide** per hectare, once per season. Apply uniformly over the soil surface. Do not use on trees established less than 6 months. Apply in late fall or early spring when poplar plants are dormant (or pre-bud break). Do not plant crops not registered for use with **CASORON G-4 Granular Herbicide** in treated soil within one year after application.

CRANBERRIES: Control of annual broad-leaved species, Blue Aster, Loosestrife, Horsetail, Knotweed, Plantain, Smartweed and Grasses (certain Sedges and Juncus Species). Application should be made early in the spring while perennial weeds are still dormant and annual weeds have not started to germinate, apply pre-bloom.

SPRING APPLICATION: Apply 110 kilograms **CASORON G-4 Granular Herbicide** per hectare. Do not make a spring application after application the previous fall. See specific directions for British Columbia.

BRITISH COLUMBIA: Apply 175-225 kilograms **CASORON G-4 Granular Herbicide** per hectare in two equal applications in early spring with an interval of 3 to 6 weeks between each 90-110 kilograms per hectare treatment. Use the high rate in the use range only every other year. Do not make fall applications.

Note: Distribute granules evenly. Avoid over application which may result from overlapping during treatment. Temporary reddening of Cranberry plants may occur, especially with late spring applications. Do not apply after Cranberry plants start to bloom as yield may be reduced. Do not use on young beds, newly sanded beds or beds recently mowed for vines. Use lower rates of application on sandy bogs.

To minimize surface water contamination when used on cranberries, all effluent water must be impounded and held for one day prior to release.

HIGHBUSH BLUEBERRIES: Apply uniformly at the rate of 175-225 kilograms per hectare during the dormant period (late winter or fall) Bracken fern and weeds listed in the cranberry section of this label will be controlled. Use the high rate in the use range only every other year. Apply by ground only.

LOWBUSH BLUEBERRIES: Apply **CASORON G-4 Granular Herbicide** at the rate of 110-175 kilograms per hectare during the dormant period (late winter or fall). Use the high rate (175 kg/ha) in the first year of use or to control grasses and tough perennial weeds. The low rate (110 kg/ha) can be used the following year for annual weed control. Apply by ground only. Do not apply within 100 days of harvest.

RASPBERRIES (including red and black): For couch grass, other perennial broadleaf weeds and annual weeds in established raspberry plantings. Apply **CASORON G-4 Granular Herbicide** at the rate of 110-175 kilograms per hectare during the dormant period (late winter or fall). Use the low rate (110 kg/ha) for control of annual weeds. The high rate (175 kg/ha) can be used for control of grasses and tough perennial weeds, but only every other year. Apply by ground only. Do not cultivate or work into the soil. Apply only to crops that have been established for one or more years. Do not apply within 100 days of harvest.

ESTABLISHED SASKATOONS: Weeds controlled - as per above list including chickweed, stinkweed, groundsel, pigweed, dandelion and some grasses. Apply to Saskatoons, established for one or more years. Apply with a granular applicator in the fall before freeze-up. Use 110-175 kg of **CASORON G-4 Granular Herbicide** granules per hectare on a broadcast basis. Use the high rate in the use range only every other year.

Do not apply within 9 months of harvest. Apply by ground only.

GRAPES: Apply only to control weeds under grapes established for at least two full years. Do not treat soil the year before planting or replanting grapes. Grape nurseries should not be treated.

Rates: For seedling weeds use 110-175 kilograms per hectare in early spring or fall. For perennial weeds such as couch grass and thistles, apply in the fall using 175-225 kilograms per hectare. Use the high rate in the use range only every other year. Apply by ground only.

Follow these specific recommendations.
1. Treat when vines are completely dormant.
2. Treat only healthy vines.
3. Treat only vines established for at least two full years.
4. Apply in cool weather on moist soil.
5. Avoid over-application to base of the stem.

Note: If spring application is made, apply before the weeds germinate and a month before the grape buds burst. Do not apply on hazy, hot days.

COUCH GRASS AND ARTEMISIA CONTROL IN ESTABLISHED WOODY ORNAMENTALS: Couch grass and Artemisia can be controlled in woody ornamentals listed above (except Boxwood, Euonymus, Forsythia, Heather) which has been planted for at least one year - and for control in noncrop areas. Uniformly apply 150 kilograms per hectare **CASORON G-4 Granular Herbicide** in late fall (between October 15th and December 15th) and reapply at the rate of 150 kilograms per hectare in very early spring (before May 1). Do not repeat this application the next year. Apply by ground only.

QUACKGRASS, THISTLES, BINDWEED, DANDELION: Fall treat the areas of weeds from spring plantings of woody ornamentals. Uniformly apply 225-275 kilograms of **CASORON G-4 Granular Herbicide** per hectare in late October or November**. DO NOT TRANSPLANT INTO TREATED SOIL FOR ONE YEAR**. Apply by ground only.

NUTSEDGE (NUTGRASS) CONTROL: To control Nutsedge (Nutgrass) on mineral soils in areas on which containers of nursery stock are to be grown or held - also for control on cultivated non-crop land - apply 275 kilograms **CASORON G-4 Granular Herbicide** per hectare and incorporate immediately to a depth of 10 to 15 centimeters. Seasonal control of annual weeds will also be obtained. Containers of plants listed above may be placed on treated soil immediately. **DO NOT TRANSPLANT INTO TREATED SOIL FOR ONE YEAR**. Apply by ground only.

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Arysta LifeScience Canada Inc. under the User Requested Minor Use Label Expansion program. For these uses, Arysta LifeScience Canada Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

DIRECTION FOR USE:
CURRANTS (red and black): Apply uniformly at the rate of –110 - 175 kilograms per hectare during the dormant period (late winter or fall). Use the high rate in the use range only every other year. Do not apply within 110 days of harvest. Apply by ground only.

PRECAUTIONS:

- **KEEP OUT OF REACH OF CHILDREN**. Harmful if swallowed. Avoid breathing dust. Avoid skin or eye contact. Avoid contamination of feed and foodstuffs.
- Do not use crops other than those listed on the label. Do not use in seedbeds, transplant or cutting beds. **DO NOT USE IN OR AROUND GREENHOUSES.**
- Do not apply until 6 months after rooting of cuttings in the field.

- **CAUTION:** Do not graze livestock in treated areas or use treated crops for forage or fodder, sufficient data are not available to support such use. Application in spring should be made well before bud burst. Do not plant vegetables or other sensitive crops the year following soil treatment.
- Wear long-sleeved shirt, long pants, socks, shoes, and chemical-resistant gloves during mixing, loading, application, clean up and repair. Gloves are not required during ground application within a closed cab.
- Do not apply directly by hand.
- **DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT.**

ENVIRONMENTAL PRECAUTIONS

- This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of **CASORON G-4 Granular Herbicide** in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

ENVIRONMENTAL PRECAUTIONS

- 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.
- Toxic to aquatic organisms.

FIRST AID:

If swallowed: call a poison control centre or doctor immediately for treatment advice. Have a 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.

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 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

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

TOXICOLOGICAL INFORMATION: Treat symptomatically.

STORAGE AND DISPOSAL:

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Keep container closed. Do not store in direct sunlight. Do not store above 35°C or below 0°C.

DISPOSAL:

1. Follow provincial instructions for any required cleaning of the container prior to its disposal.
2. Make the empty container unsuitable for further use.
3. Dispose of the container in accordance with provincial requirements.
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