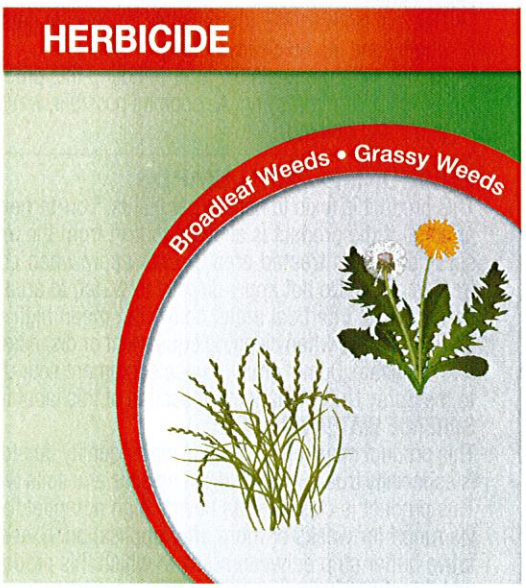
BAYER

Derigo®

HERBICIDE



FORAMSULFURON & IODOSULFURON-METHYL & THIENCARBAZONE-METHYL	GROUP 2	HERBICIDE

Used to manage weeds in Unimproved Warm-Season Grass Areas, Non-irrigation ditch banks, Pipelines, Highways, Airports, Railroads, Utility Rights-of-Way, Parks, Natural areas, Military installations, Restoration sites, Municipal sites, Manufacturing sites, Sewage disposal sites, Commercial sites, and Industrial sites. Also Used for Seedhead and Vegetative Growth Regulation of bahiagrass.**

ACTIVE INGREDIENTS:

Foramsulfuron (CAS Number 173159-57-4)	**24.0%**
Iodosulfuron-methyl (CAS Number 144550-36-7)	**2.4%**
Thiencarbazone-methyl (CAS Number 317815-83-1)	**10.0%**
OTHER INGREDIENTS:	**63.6%**
TOTAL:	**100.0%**

Derigo® Herbicide is formulated as a 36.4% water dispersible granule

EPA Reg. No. 432-1533 **EPA Est. No. 000264-DEU-001**

See Back Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

STOP - READ THE LABEL BEFORE USE

KEEP OUT OF REACH OF CHILDREN

CAUTION

**Not for use in California.

Net Contents
60 Ounces
(1.7Kg)
81785031
84127191C
191204AV1

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
5000 CentreGreen Way, Suite 400
Cary, NC 27513
Product of Germany

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-800-331-2867

FIRST AID	
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center 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 center or doctor for treatment advice.
If swallowed:	• Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.	

PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants. Non-target plants may be adversely affected if the product is allowed to drift from the areas of application. Avoid spray drift from treated area. Do not apply when conditions favor drift from treated areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not drain or rinse equipment near desirable vegetation. Refer to the Spray Drift Management section of this label for additional information.

SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for weeks or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential

loading of foramsulfuron and iodosulfuron-methyl from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

GROUNDWATER ADVISORY

This product has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

PRODUCT INFORMATION

PRODUCT USES

Derigo® Herbicide may be used as a foliar spray to control annual and perennial broadleaf weeds and grasses in unimproved warm season grasses including bermudagrass, centipedegrass, and zoysiagrass, and for use in bare ground sites. Unimproved grasses are grasses found in settings that are not well-maintained and DOES NOT include settings (e.g., sports fields, home lawns, golf courses) where the grass is maintained at a higher level through management practices including frequent mowing at short heights, and fertility. Derigo Herbicide can also be used to suppress seedheads and vegetative growth of bahiagrass** in order to reduce mowing requirements.

Derigo Herbicide controls weeds after they have germinated (postemergence) and will provide short-term residual control of some listed annual broadleaf and grassy weeds.

Derigo Herbicide may be used to manage weeds on private, public and military non-crop lands (e.g. pipelines, railroads, utility and highway rights-of-way), airports, parks, natural areas, restoration sites, municipal sites (e.g., waste water treatment facilities and prisons facilities), commercial and industrial sites (e.g. oil refineries, distribution centers, and chemical plants).

**Not for use in California.

SYMPTOMS

Weed growth ceases within hours after a postemergence application. Symptoms progress from yellowing or reddening/purpling to eventual plant death within 1 to 4 weeks after application depending on the sensitivity of the weed and environmental conditions. Weed control is more rapid when average air temperatures are 65 degrees or greater, when soil moisture is adequate for weed growth, and when weeds are not under environmental stress.

WARM SEASON GRASS TOLERANCE

Derigo Herbicide can be used on the following types of low maintenance grasses: bermudagrass (*Cynodon dactylon*), centipedegrass (*Eremochloe ophioroides*), and zoysiagrass (*Zoysia* species). All of these species show good tolerance to this product, however, some temporary discoloration of certain warm-season grasses may occur to turf under stress from drought, disease, extreme cold or hot weather.

Derigo Herbicide will suppress bahiagrass** (*Paspalum notatum*) growth and seedhead development. Bahiagrass** may be temporarily discolored following application depending on bahiagrass** cultivars, herbicide rate, surfactant used, application timing, and environmental factors.

Other warm season grasses and their cultivars may be tolerant to this product, however tolerance testing needs to be done prior to use.

DO NOT use this product on cool-season grasses, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass, etc. unless control of these species is desired.

** Not for use in California.

MODE OF ACTION

Derigo Herbicide contains three active ingredients: thiencarbazone-methyl, iodosulfuron-methyl-sodium, and foramsulfuron. These active ingredients inhibit acetolactate synthase (ALS), an enzyme responsible for the synthesis of amino

acids that are essential for plant growth. Some weed species have naturally occurring biotypes that are resistant to ALS-inhibiting herbicides.

RESISTANCE MANAGEMENT

Derigo Herbicide contains the active ingredients foramsulfuron, iodosulfuron-methyl, and thiencarbazone-methyl which are Group 2 Herbicides based on the mode of action classification system of the Weed Science Society of America. When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected.

Follow the best management practices listed below to delay the development of herbicide resistant weeds.

- Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Fields should be scouted after application to verify that the treatment was effective.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - o Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - o A spreading patch of non-controlled plants of a particular weed species; and
  - o Surviving plants mixed with controlled individuals of the same species.
- Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.
- Report any incidence of non-performance of this product against a particular weed species to your Bayer distributor, Bayer representative or call 1-800-331-2867.
- If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.
- Use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.
- To the extent possible, do not allow weed escapes to produce seeds, roots, or tubers.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weeds in the field.
- Use a broad spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program.
- Do not use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.

MANDATORY SPRAY DRIFT

Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or target vegetation unless making applications to unimproved warm-season grass areas, in which case applicators may apply with a nozzle height no more than 4 feet above the crop or target vegetation.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a Coarse or coarser droplet size (ASABE S572.1).

continued

MANDATORY SPRAY DRIFT *(continued)*

- For all other applications, applicators are required to use a Medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

Boom-less Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of 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. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

NON-TARGET ORGANISM ADVISORY

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Management section of this label.

WINDBLOWN SOIL PARTICLES ADVISORY

Derigo Herbicide has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affects the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying Derigo Herbicide if prevailing local conditions may be expected to result in off-site movement.

RESTRICTIONS

1. **DO NOT** apply more than a total of 6 ounces (0.090 lb foramsulfuron; 0.009 lb iodosulfuron-methyl; 0.0375 lb thiencarbazone-methyl) product per acre per year (365 days).
2. **DO NOT** apply more than 6 ounces (0.090 lb foramsulfuron; 0.009 lb iodosulfuron-methyl; 0.0375 lb thiencarbazone-methyl) of product per acre in a single application.
3. For Bahiagrass growth regulation, **DO NOT** apply more than a total of 3 ounces (0.045 lb foramsulfuron; 0.0045 lb iodosulfuron-methyl; 0.0188 lb thiencarbazone-methyl) product per acre per year (365 days).
4. **DO NOT** make more than two applications of Derigo Herbicide to all use sites per year when using reduced application rates. Allow 4 to 6 weeks between applications.
5. **DO NOT** apply this product by air or through any type of irrigation system.
6. Apply this product to established warm season grasses only unless otherwise noted on the label.
7. Keep people and pets out of the area during application.
8. **DO NOT** allow people or pets to enter the treated areas until sprays have dried.
9. **DO NOT** use on residential turf, sod farms, golf courses, athletic fields or other improved turf settings.
10. **DO NOT** use Derigo Herbicide for weed control in pastures and hayfields.
11. **DO NOT** use this product on cool-season grass types, including tall fescue, fine fescue, Kentucky bluegrass, perennial ryegrass unless control of these species is desired.
12. **DO NOT** mow immediately after application or before spray has dried or weed control may be reduced. After treatment, do not transfer clippings to non-target areas.

Amount of active ingredients for select Derigo Herbicide rates.

Derigo Herbicide Rate ounces/A	Foramsulfuron lb ai/A	Iodosulfuron-methyl lb ai/A	Thiencarbazone-methyl lb ai/A
1.5	0.023	0.0023	0.0094
3	0.045	0.0045	0.0188
6	0.090	0.0090	0.0375

PRECAUTIONS

1. Rainfall within 2 hours of spray drying may result in reduced weed control and may necessitate retreatment.
2. Weeds need to be actively growing when the herbicide application is made. Mature, hardened-off weeds may not be controlled. Weed control may be reduced if application is made when weeds are dust covered or in the presence of heavy dew, fog, and mist/rain or when weeds are under stress due to drought.

3. Apply spray mixtures of this product within 5 days of mixing to avoid product degradation.

APPLICATION METHODS

Uniform, thorough spray coverage of the targeted weeds with properly calibrated spray equipment is important to achieve consistent weed control. Derigo Herbicide may be applied by broadcast or spot applications.

Broadcast Application

Apply Derigo Herbicide at a rate of 3 to 6 ounces per acre as a broadcast spray to control the weeds listed in the WEEDS CONTROLLED Section of the label. **DO NOT** exceed the maximum amount of 6 ounces per acre of this product per year applied as a broadcast spray. For broadcast applications, use a minimum of 10 gallons of water per acre. A higher spray volume may be necessary to obtain adequate spray coverage of targeted weeds for control in dense weed populations.

Spot Application/ Directed Spay

Apply with a hand held or high volume application sprayer. Apply a spray solution consisting of 3-6 ounces product per 25 to 100 gallons as directed spray to targeted weeds until wet. For spot treatment, **DO NOT** treat more than 10,000 sq. ft. per acre of treated area.

Non-Irrigation Ditch Banks

It is permissible to treat non-irrigation ditch banks and transitional areas between upland and lowland sites. Derigo Herbicide can be used to the water's edge. **DO NOT** apply directly to water and take precautions to minimize spray drift onto water. Refer to spray drift management section of this label for more information.

USE OF SPRAY ADJUVANTS

Derigo Herbicide is a water dispersible granule (WDG) that requires the use of a surfactant for maximum weed control. Use the spray adjuvant(s) as specified in the WEED CONTROL section of this label or follow the directions below.

- Use a non-ionic surfactant (NIS) at 0.25 to 0.5% v/v of the spray solution that is at least 80% active material. **DO NOT** exceed 1 quart of NIS per acre as injury to desirable grass species may occur.
- Use of a spray adjuvant containing an organosilicone surfactant is NOT advised.
- For difficult-to-control weeds and perennial grasses, use 0.5 to 1% v/v of a methylated seed oil (MSO) containing at least 80% methylated seed oil.
- The addition of ammonium sulfate (AMS) or urea ammonium nitrate (UAN) has been shown to improve control of some difficult-to-control weeds. Use a spray grade AMS (1.5 to 3 lb/A) for areas of high relative humidity or use (UAN) (1.5-2 Qt/A) in areas of low relative humidity.
- Application of Derigo Herbicide with a spray adjuvant or nitrogen-containing fertilizers when temperatures are above 90 degrees or when desirable grasses are under stress may cause injury.

MIXING, COMPATIBILITY, AND CLEANUP

Spray Solution pH

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

The efficacy of this product may be affected by the pH of the spray solution. A pH near 7.0 is ideal. If the pH is <6 and if product spray solution is not to be used within 24 hours, add a suitable buffer.

Mixing Instructions

This product must be applied with clean and properly calibrated equipment. Prior to adding this product, ensure that the spray tank, filters, and nozzles have been thoroughly cleaned. Prepare only as much spray mixture as needed for application on the same day.

1. Fill spray tank with 25% to 50% of the required volume of water, and begin agitation prior to the addition of this product.
2. Before filling or adding any additional products, ensure full dispersion of this product.

3. If this product is applied in a tank mixture with other products, add this product to the spray tank first and ensure it is thoroughly dispersed before adding other products.
4. Continue to fill the spray tank with water to the desired volume and agitate while adding spray adjuvants or nitrogen fertilizers.
5. Continue agitation during application to ensure a uniform spray mixture.

Compatibility

If this product is to be tank-mixed with other products, it is advised that a compatibility test be done prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop (precipitation, settling, changes in color) do not use this mixture for spraying. Indications of incompatibility may occur within 5-15 minutes after mixing. Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

Tank Cleanup Procedure

1. Drain the tank completely, then wash out tank, boom, and hoses with clean water. Drain again.
2. Fill the tank half-full with clean water and add ammonia (i.e. 3% domestic ammonia solution) at a dilution rate of 1% (i.e. 1 gallon of domestic ammonia for every 100 gallons of rinsate). Completely fill the tank with water. Agitate/re-circulate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat Step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat Step 2.

WEED CONTROL INFORMATION

This product may be used to control a variety of broadleaf weeds and grasses in warm season perennial grasses listed on this label. Apply this product to susceptible weeds as listed in the Weed Control section of this label. For certain perennial and difficult to control annual weeds, a repeat application may be needed 4 to 6 weeks later if regrowth is observed. Total amount of product applied in a calendar year (365 days) must not exceed 6 ounces of product per acre.

VASEYGRASS, DALLISGRASS, and JOHNSONGRASS CONTROL

For best results, apply this product in combination with MSO at 0.5 to 1% v/v and apply as a broadcast, spot application, or directed spray. Make a second application if regrowth is observed 30 to 60 days later. Applications made in the fall generally provide better control of dallisgrass than at other times of the year.

BAHIAGRASS GROWTH REGULATION**

Derigo Herbicide may be applied as a broadcast spray to bahiagrass at a rate of 1.5 to 3 ounces per acre to suppress foliar and seedhead growth. Higher use rates, including those used for weed control (greater than 3 ounces per acre), may cause unacceptable bahiagrass discoloration. For optimum results, apply after bahiagrass green-up and avoid applications when bahiagrass is under visible signs of stress due to drought or other environmental factors. Length of growth regulation will depend on use rate, bahiagrass cultivar, and environmental conditions.

**Not for use in California.

TANK-MIXES

Derigo Herbicide may be tank-mixed with (but not limited to) the following herbicides to provide extended residual control or improved postemergence weed control: Esplanade® 200SC Herbicide (EPA Reg. No. 432-1516 containing indaziflam), aminopyralid, aminocyclopyrachlor, glyphosate, triclopyr.

When using Derigo Herbicide in combination with other herbicides, follow the precautions restrictions and directions of both labels. When using new tank mixtures with Derigo Herbicide, test physical and biological compatibility prior to use.

USE RATES FOR WEED CONTROL

Apply this product at a rate of 3 to 6 ounces per acre as a broadcast spray or apply at a rate of 3 to 6 ounces per 25 to 100 gallons as a directed spray to control the weeds listed below. Some weed species and more mature weed growth stage may require repeat applications and/or use of the higher use rate on this product label even under ideal conditions for application.

Broadleaf Weeds Controlled

Common Name	Scientific Name
American burnweed, Fireweed	*Erechtites hieraciifolia*
Annual lespedeza	*Lespedeza striata*
Asiatic hawksbeard	*Youngia japonica*
Birdseye pearlwort	*Sagina procumbens*
Black medic, hop medic	*Medicago lupulina*
Black nightshade	*Solanum nigrum*
Blackseed plantain	*Plantago rugelii*
Blue mustard	*Chorispora tenella*
Bracted plantain	*Plantago aristata*
Broadleaf plantain, common plantain	*Plantago major*
Buckhorn plantain, narrowleaf plantain	*Plantago lanceolata*
Burcucumber	*Sicyos angulatus*
Burdock	*Arctium spp.*
Buttercup	*Ranunculus spp.*
California burclover	*Medicago polymorpha*
Chamomile, scentless	*Matricaria inodora*

continued

Broadleaf Weeds Controlled (continued)

Common Name	Scientific Name
Canada thistle**	*Cirsium arvense*
Canada toadflax	*Linaria canadensis*
Carolina dichondra, Dichondra*	*Dichondra carolinensis*
Carolina falsedandelion	*Pyrrhopappus carolinianus*
Carolina geranium, wild geranium*	*Geranium carolinianum*
Carpetweed	*Mollugo verticillata*
Catsear dandelion	*Hypochoeris radicata*
Chamberbitter	*Phyllanthus urinaria*
Common chickweed	*Stellaria media*
Common lambsquarter*	*Chenopodium album*
Common purslane*	*Portulaca oleracea*
Common ragweed	*Ambrosia artemisiifolia*
Common sunflower	*Helianthus annuus*
Common vetch	*Vicia sativa*
Common waterhemp	*Amaranthus rudis*
Corn speedwell	*Veronica arvensis*
Creeping beggarweed	*Desmodium canum*
Creeping speedwell	*Veronica filiformis*
Curly dock	*Rumex crispus*
Cutleaf evening primrose	*Oenothera laciniata*
Dandelion, common	*Taraxacum officinale*

continued

Broadleaf Weeds Controlled (continued)

Common Name	Scientific Name
Dogfennel	*Eupatorium capillifolium*
Dollarweed, Pennywort*	*Hydrocotyle spp.*
Eastern black nightshade	*Solanum ptychanthum*
Entireleaf morningglory	*Ipomoea hederacea var. integriuscula*
Facelis, trampweed	*Facelis retusa*
Field madder	*Sherardia arvensis*
Field pansy, Johnny jump-up*	*Viola rafinesquil/bicolor*
Field pepperweed	*Lepidium campestre*
Field pennycress	*Thlaspi arvense*
Field violet, wild pansy	*Viola arvensis*
Fleabane	*Erigeron spp*
Florida betony	*Stachys floridana*
Florida pusley	*Richardia scabra*
Giant ragweed	*Ambrosia trifida*
Ground ivy	*Glechoma hederacea*
Hairy bittercress	*Cardamine hirsuta*
Hairy nightshade	*Solanum villosum*
Heartwing sorrel	*Rumex hastatulus*
Heath aster*	*Aster ericoides*
Hemp sesbania	*Sesbania exaltata*

continued

Broadleaf Weeds Controlled (continued)

Common Name	Scientific Name
Hempnettle	*Galeopsis spp.*
Henbit	*Lamium amplexicaule*
Hop clovers	*Trifolium spp.*
Horsenettle	*Solanum cardinense*
Horse purslane	*Trianthema portulacastrum*
Horseweed (marestail)**	*Conyza canadensis*
Ivyleaf morningglory	*Ipomoea hederacea*
Khakiweed*	*Alternanthera caracasana*
Knawel	*Scleranthus annuus*
Lady's Mantle	*Alchemilla mollis*
Lawn burweed, spurweed	*Soliva sessilis*
Mouse-ear chickweed	*Cerastium glomeratum*
Oxeye daisy	*Leucanthemum vulgare*
Paleseed plantain	*Plantago virginica*
Palmer amaranth	*Amaranth palmeri*
Parsley piert	*Aphanes microcarpa*
Pennsylvania smartweed**	*Polygonum pensylvanicum*
Pitted morningglory	*Ipomoea lacunosa*
Poison hemlock	*Corium maculatum*
Pokeweed, common	*Phytolacca americana*
Poorjoe*	*Diodia teres*

continued

Broadleaf Weeds Controlled (continued)

Common Name	Scientific Name
Prickly sida*	*Sida spinosa*
Prostrate knotweed	*Polygonum aviculare*
Prostrate spurge	*Chamaesyce maculata*
Purple cudweed	*Gnaphalium purpureum*
Purple deadnettle	*Lamium purpureum*
Rabbitfoot clover	*Trifolium arvense*
Red sorrel	*Rumex acetosella*
Redroot pigweed	*Amaranth retroflexus*
Russian thistle	*Salsola tragus*
Shepherd's purse	*Capsella bursa-pastoris*
Sicklepod	*Senna obtusifolia*
Slender aster	*Aster gracillis*
Southern brassbuttons	*Cotula australis*
Spiny sowthistle	*Sonchus asper*
Sprawling horseweed	*Calyptocarpus vialis*
Swinecress	*Coronopus didymus*
Tansy mustard	*Descurainia pinnata*
Turnipweed	*Rapistrum rugosum*
Velvetleaf	*Abutilon theophrasti*
Venus looking-glass	*Triodanis perfoliata*
Virginia buttonweed*	*Diodia virginiana*

continued

Broadleaf Weeds Controlled (continued)

Common Name	Scientific Name
Virginia dwarf dandelion	*Krigia virginica*
Western ragweed	*Ambrosia psilostachya*
White clover	*Trifolium repens*
White mustard	*Brassica alba*
White sweet clover	*Melilotus alba*
Whiteleaf sage	*Salvia leucophylla*
Wild buckwheat	*Polygonum convolvulus*
Wild carrot	*Daucus carota*
Wild garlic	*Allium vineale*
Wild lettuce	*Lactuca canadensis*
Wild mustard	*Brassica kaber*
Wild onion	*Allium canadense*
Wild parsley	*Lomatium foeniculaceum*
Wild radish	*Raphanus raphanistrum*
Yellow rocket	*Barbarea vulgaris*
Yellow woodsorrel, Oxalis*	*Oxalis stricta*

**Not for use in California.

Grassy Weeds and Sedges Controlled

Common Name	Scientific Name
Annual bluegrass	*Poa annua*
Annual ryegrass	*Lolium multiflorum*
Barnyardgrass	*Echinochloa crusgalli*
Broadleaf signalgrass	*Urochloa platyphylla*
Browntop millet	*Brachiaria ramosa*
Carpetgrass	*Axonopus affinis*
Common millet, proso millet	*Panicum miliaceum*
Giant foxtail	*Setaria faberi*
Goosegrass	*Eleusine indica*
Green foxtail	*Setaria viridis*
Gophertail lovegrass	*Eragrostis cillaris*
Green kyllinga	*Kyllinga brevifolia*
Dallisgrass*	*Paspalum dilatatum*
Doveweed	*Murdannia nudiflora*
Fall panicum	*Panicum dichotomiflorum*
Field sandbur	*Cenchrus incertus*
Johnsongrass*	*Sorghum halepense*
Large crabgrass*	*Digitaria sanquinalis*
Quackgrass	*Agropyron repens*
Red fescue	*Festuca rubra*
Rattail fescue	*Vulpia myuros*

continued

Grassy Weeds and Sedges Controlled (continued)

Common Name	Scientific Name
Rescuegrass*	*Bromus catharticus*
Shattercane	*Sorghum bicolor*
Stinkgrass	*Eragrostis cilianensis*
Switchgrass	*Panicum virgatum*
Tall fescue	*Festuca arundinacea*
Texas panicum	*Panicum texanum*
Thin paspalum, bull paspalum*	*Paspalum setaceum*
Vaseygrass*	*Paspalum urvillei*
Wild oat	*Avena fatua*
Yellow foxtail	*Setaria lutescens*

* Weeds may require a second application of this product for acceptable control. The degree of weed control varies with rate, weed size or stage of growth, and environmental conditions before and following treatment. If weeds are showing signs of recovery, make a second application 4 to 6 weeks after the first. **DO NOT** exceed 6 ounces of product per acre per year (365 days) for all applications.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, plant injury, other property damage, as well as other unintended consequences may result because of factors beyond the control of Bayer CropScience LP. Those factors include, but are not limited to, weather conditions, presence of other materials or the manner of use or application. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience LP is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BAYER CROPSCIENCE LP DISCLAIMS ANY LIABILITY WHATSOEVER FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER CROPSCIENCE LP'S ELECTION, THE REPLACEMENT OF PRODUCT.

Derigo® HERBICIDE

FORAMSULFURON & IODOSULFURON-METHYL & THIENCARBAZONE-METHYL	GROUP 2	HERBICIDE

ACTIVE INGREDIENTS:

Foramsulfuron (CAS Number 173159-57-4)	24.0%
Iodosulfuron-methyl (CAS Number 144550-36-7)	2.4%
Thiencarbazone-methyl (CAS Number 317815-83-1)	10.0%
OTHER INGREDIENTS:	63.6%
TOTAL:	100.0%

Derigo® Herbicide is formulated as a 36.4% water dispersible granule

EPA Reg No. 432-1533 **EPA Est. No. 000264-DEU-001**

STOP - READ THE LABEL BEFORE USE

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

See Panel for First Aid Instructions and Booklet for Complete Precautionary Statements and Directions for Use.

Net Contents:
60 Ounces (1.7Kg)
81785031
8412719C 191204AV1

Produced for:
Bayer Environmental Science
A Division of Bayer CropScience LP
5000 CentreGreen Way, Suite 400
Cary, NC 27513
Product of Germany

For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-800-331-2867

FIRST AID	
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center 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 center or doctor for treatment advice.
If swallowed:	• Immediately call a poison control center or doctor for treatment advice. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Have person sip a glass of water if able to swallow. • Do not give anything by mouth to an unconscious person.
For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.	

Bayer

SAFETY DATA SHEET

DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

Revision Date: 10/14/2020
Print Date: 10/15/2020

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	DERIGO™ HERBICIDE
Product code (UVP)	80555180
SDS Number	102000025797
EPA Registration No.	432-1533

Relevant identified uses of the substance or mixture and uses advised against

Use	Herbicide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer Environmental Science A division of Bayer CropScience LP 5000 Centregreen Way, Suite 400 Cary, NC 27513 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Carcinogenicity: Category 1B
Combustible dust

Labelling in accordance with regulation HCS 29CFR §1910.1200

Signal word: Danger

Hazard statements
May cause cancer.

May form combustible dust concentrations in air.
Conduct Dust Hazard Assessment (DHA).

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF exposed or concerned: Get medical advice/ attention.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Foramsulfuron	173159-57-4	24.0
Iodosulfuron-methyl-sodium	144550-36-7	2.4
Thiencarbazone-methyl	317815-83-1	10.0
Sulfonated aromatic polymer, sodium salt	68425-94-5	13.5
Crystalline quartz (respirable)	14808-60-7	0.4

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact
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 physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms	No symptoms known or expected.

Indication of any immediate medical attention and special treatment needed

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media	
Suitable	Water spray, Carbon dioxide (CO2), Foam, Sand
Unsuitable	High volume water jet
Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Hydrogen iodide (HI), Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides
Advice for firefighters	
Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Flash point	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Dust explosion class	capable of causing a dust explosion (modified Hartmann tube, ignition with glow spiral)

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use only in area provided with appropriate exhaust ventilation.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Keep away from direct sunlight.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Foramsulfuron	173159-57-4	10 mg/m3 (TWA)		OES BCS*
Iodosulfuron-methyl-sodium	144550-36-7	1 mg/m3 (TWA)		OES BCS*

Thiencarbazone-methyl	317815-83-1	10 mg/m3 (TWA)		OES BCS*
Crystalline quartz (respirable) (Respirable fraction.)	14808-60-7	0.025 mg/m3 (TWA)	02 2012	ACGIH
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (REL)	2016	NIOSH
Crystalline quartz (respirable)	14808-60-7	0.05 mg/m3 (TWA)	03 2016	OSHA
Crystalline quartz (respirable)	14808-60-7	0.025 mg/m3 (OSHA_ACT)	03 2016	OSHA
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (PEL)	03 2016	OSHA Z1
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.050 mg/m3 (TWA)	01 2019	TN OEL
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (TWA PEL)	10 2016	US CA OEL
Crystalline quartz (respirable) (Respirable.)	14808-60-7	2.4millions of particles per cubic foot of air (TWA)	2000	Z3
Crystalline quartz (respirable) (Respirable.)	14808-60-7	0.1 mg/m3 (TWA)	2000	Z3

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection — When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection — Chemical resistant nitrile rubber gloves

Eye protection — Safety glasses with side-shields

Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form	water-dispersible granules
Colour	beige
Odour	weak
Odour Threshold	No data available
pH	8.5 - 9.5 (1 %) (23 °C) (deionized water)
Melting point/range	No data available
Boiling Point	No data available
Flash point	No data available
Flammability	The product is not highly flammable.
Auto-ignition temperature	No data available
Ignition temperature	375 °C
Minimum ignition energy	> 1,000 mJ
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Dust explosion class	capable of causing a dust explosion (modified Hartmann tube, ignition with glow spiral)
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	No data available
Bulk density	ca. 0.73 g/ml (bulk density tapped)
Water solubility	dispersible

Partition coefficient: n-octanol/water	Foramsulfuron: log Pow: 0.60 Iodosulfuron-methyl-sodium: log Pow: -0.7 Thiencarbazone-methyl: log Pow: -0.13
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Dust content	nearly dust-free
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion
Immediate Effects	
Eye	No eye irritation
Skin	No skin irritation
Ingestion	Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 5.02 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol.

Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit)
Serious eye damage/eye irritation	No eye irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Foramsulfuron: Based on available data, the classification criteria are not met.
Iodosulfuron-methyl-sodium: Based on available data, the classification criteria are not met.
Thiencarbazone-methyl: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Foramsulfuron did not cause specific target organ toxicity in experimental animal studies.
Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.
Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Foramsulfuron was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Foramsulfuron was not carcinogenic in lifetime feeding studies in rats and mice.
Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.
Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. Thiencarbazone-methyl caused at high dose levels an increased incidence of tumours in mice in the following organ(s): urinary bladder. The tumours seen with Thiencarbazone-methyl were caused through the chronic irritation due to the presence of bladder stones.

ACGIH

Crystalline quartz (respirable)	14808-60-7	Group A2

NTP

Crystalline quartz (respirable)	14808-60-7	

IARC

Crystalline quartz (respirable)	14808-60-7	Overall evaluation: 1

OSHA

None.

Assessment toxicity to reproduction

Foramsulfuron did not cause reproductive toxicity in a two-generation study in rats.
Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.
Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Foramsulfuron did not cause developmental toxicity in rats and rabbits.
Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.
Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia (water flea)) > 1,000 mg/l Exposure time: 48 h
Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 5.71 mg/l Growth rate; Exposure time: 72 h
	IC50 (Lemna gibba (gibbous duckweed)) 0.00296 mg/l Growth rate; Exposure time: 7 d
Biodegradability	Foramsulfuron: Not rapidly biodegradable Iodosulfuron-methyl-sodium: Not rapidly biodegradable Thiencarbazone-methyl: Not rapidly biodegradable
Koc	Foramsulfuron: Koc: 38 - 151 Iodosulfuron-methyl-sodium: Koc: 45 Thiencarbazone-methyl: Koc: 100
Bioaccumulation	Foramsulfuron: Does not bioaccumulate. Iodosulfuron-methyl-sodium: Does not bioaccumulate. Thiencarbazone-methyl: Does not bioaccumulate.
Mobility in soil	Foramsulfuron: Mobile in soils Iodosulfuron-methyl-sodium: Mobile in soils Thiencarbazone-methyl: Moderately mobile in soils

Results of PBT and vPvB assessment

PBT and vPvB assessment	Foramsulfuron: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Iodosulfuron-methyl-sodium: This substance is not considered to be

	persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Thiencarbazone-methyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR	Not dangerous goods / not hazardous material
IMDG	
UN number	**3077**
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)
IATA	
UN number	**3077**
Class	9

Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification:	COMPOUNDS, TREE OR WEEDKILLING, N.O.I., other than poison; HAVING A DENSITY OF GREATER THAN 20 LBS. PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1533
US Federal Regulations
TSCA list

Kaolin	1332-58-7
Sulfonated aromatic polymer, sodium salt	68425-94-5
Polyvinylpyrrolidone	9003-39-8

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No export notification needs to be made.
SARA Title III - Section 302 - Notification and Information
Not applicable.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.

US States Regulatory Reporting
CA Prop65
WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Crystalline quartz (respirable)	14808-60-7

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Methanol	67-56-1	Developmental toxin.

US State Right-To-Know Ingredients

Kaolin	1332-58-7	MN, RI
Polyvinylpyrrolidone	9003-39-8	CA

Environmental
CERCLA
None.
Clean Water Section 307(a)(1)
None.

Safe Drinking Water Act Maximum Contaminant Levels
Yes
Methanol 67-56-1

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Causes moderate eye irritation.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):
Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)
Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 5: Fire Fighting Measures. Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

Revision Date: 10/14/2020