

SPECTICLE®

G

Herbicide

Preemergence Herbicide for the Control of Grasses, Annual Sedges, and Broadleaf Weeds in Warm Season Turfgrass, Landscape Ornamentals, Conifers, Hardscapes, and Natural Areas

DO NOT USE FOR THE MANUFACTURING OF FERTILIZER

ACTIVE INGREDIENT:

INDAZIFLAM..... 0.0224%

OTHER INGREDIENTS:..... 99.9776%

TOTAL:..... 100.000%

EPA Reg. No. 101563-149

EPA Est. No.

Contains 0.0112 lbs of INDAZIFLAM in a 50 lb bag

KEEP OUT OF REACH OF CHILDREN

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

For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-424-9300

For **PRODUCT USE** Information Call 1-800-331-2867

FIRST AID	
If swallowed:	• Call a poison control center 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 center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes:	• Hold eyes 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. • 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 inhaled:	• Move person 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 poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

PRECAUTIONARY STATEMENTS

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENTS:

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (5) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing and PPE immediately if pesticide gets inside. Then wash body thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and plants. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean watermark. Do not contaminate water when disposing of equipment, mixture or wastewater. This product may enter water through runoff. Follow directions for use to avoid runoff. 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 for getting into water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Surface Water Advisory: This pesticide 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 a high potential for reaching surface water via runoff for several months or more after application.

Ground Water Advisory: This pesticide has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water 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.

Read entire label before using this product.

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 area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is coveralls, waterproof gloves and shoes plus socks.

SKU# 84056146

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**Net Contents:
50 Pounds**



Broadleaf Weeds, Grasses, and Sedges



NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Always wear protective clothing and use appropriate equipment during application and handling. Avoid contact with granules. Avoid breathing dust.

PRODUCT INFORMATION

Specticle G is a selective, preemergence alkylazine herbicide. Specticle G provides extended residual control of many annual grasses including crabgrass, goosegrass, and annual bluegrass, as well as annual sedges, and many broadleaf weeds. Use sites include turf; landscape ornamentals including residential, commercial, municipal, roadside, and natural areas; non-bearing fruit and nut trees in residential plantings; and hardscapes.

Use Specticle G on established warm season turf in areas including golf courses (roughs and fairways), sod farms, sports fields, residential and commercial lawns, parks, and cemeteries.

Specticle G controls weeds by reducing the emergence of seedlings through inhibition of cellulose biosynthesis (CB Inhibitor). Necrosis or yellowing may be observed if the herbicide is applied to herbaceous tissue such as leaves and green stems or at bud break of sensitive plants. Specticle G does not control plants emerging from tubers, rhizomes, bulbs, corms, and rootstocks.

Specticle G needs to be activated by rainfall or irrigation prior to weed germination for most effective preemergence control.

Specticle G is a highly active herbicide that provides effective weed control when applied to the soil around many labeled ornamentals. Specticle G may also be used over-the-top of labeled ornamentals with adequate precautions. Specticle G may damage sensitive plants, if granules are allowed to remain in contact with foliage. Carefully apply Specticle G in strict accordance to the label.

Specticle G Conversion Table	
Rate in lbs/Acre	Rate in lbs/1000 sq ft
100	2.3
125	2.9
133	3.1
150	3.4
200	4.6
400	9.2

PRODUCT USE RESTRICTIONS

- Do not exceed 200 lbs of Specticle G per acre (4.6 lbs/1000 sq ft) in a single application for turf and ornamental applications.
- Do not exceed 400 lbs of Specticle G per acre (9.2 lbs/1000 sq ft) for all applications within a 12-month period.
- Do not contaminate water intended for irrigation and domestic use.
- Specticle G is not for sale, distribution, or use in Nassau county, or Suffolk county, in New York State.
- For ground application only.

DEACTIVATING SPECTICLE G

Activated charcoal has been shown to deactivate Specticle G if applied within several days of an application. Follow directions for the amount of charcoal to apply on the label of the activated charcoal.

APPLICATION INFORMATION

Apply Specticle G with clean, properly calibrated drop, rotary, hand shaker or other spreader equipment according to the manufacturer's directions. Check periodically to be certain that the equipment is working properly prior to each use. Uniform application is essential for satisfactory weed control. Uniform application using properly calibrated equipment is essential for satisfactory weed control. Avoid skips for the best weed control and avoid overlapping application patterns to avoid plant injury. For over-the-top applications, remove granules from leaf surfaces with a blower or irrigation.

SOIL MOISTURE, IRRIGATION, AND RAINFALL AFTER APPLICATION

To activate Specticle G, irrigate lightly after application to move the herbicide into the soil. Rainfall within several days after application will negate the need to irrigate. Avoid application to saturated soil. Postpone application if rainfall that may cause visible run-off is anticipated.

EQUIPMENT CLEANUP PROCEDURE

Equipment used to apply Specticle G must be cleaned prior to use on other sensitive turf and ornamentals, or injury may result. Before and after using Specticle G clean all equipment on an approved rinse pad. Wear proper PPE while cleaning equipment.

RESISTANCE MANAGEMENT

Indaziflam, the active ingredient in Specticle G, is a Group 29 herbicide (Cellulose Biosynthesis Inhibitor) based on the mechanism-of-action classification system of the Weed Science Society of America. No known resistance to Specticle G exists, however, continual use of any herbicide with the same mechanism-of-action may lead to selection of resistant weed populations and reduction in efficacy. To manage the development and spread of resistant weed populations, rotate herbicides with different mechanisms of action. Use in conjunction with sound cultural practices which minimize weed pressure and maximize weed control. Specticle G has been shown to help manage weeds that have developed resistance to other herbicides including: glycines (glyphosate), triazines, ALS-inhibitors, and dinitroaniline (DNA) herbicides. The decision to use any particular herbicide should be based on an IPM program and all cultural practices and other pesticides in use. Contact a Environmental Science U.S., LLC representative for the latest information on resistance management guidelines for this product.

DIRECTIONS FOR USE OF SPECTICLE G ON TURF USE RESTRICTIONS FOR SPECTICLE G ON TURF

- Do not apply Specticle G to newly seeded turf.
- Do not apply to golf course greens, tees, or collars.
- Do not apply to slopes immediately above golf course greens.
- Do not apply to weakened turf that requires significant fill-in or recovery.

USE OF SPECTICLE G IN COARSE AND SANDY SOILS

Soil conditions can affect the tolerance of turf to Specticle G. Coarse or sandy soils may allow for downward movement of Specticle G into the root zone and cause significant root damage and phytotoxicity. Coarse soils, for example, may include significant quantities of sand, gravel, decomposed granite, and ground cinders. Prior to application of Specticle G in these soils, confirm soil texture with a soil test. Turf grown in soil exceeding 80% sand or 20% gravel may be at risk. Low rate split applications of Specticle G may reduce the risk on these soils. Refer to use rates for the 'Split Application Programs' section of this label.

If Specticle G is to be applied in these soils, evaluate turf tolerance in treated soils prior to a large scale application.

USE OF SPECTICLE G ON WEAKENED OR STRESSED TURF

Specticle G controls weeds by inhibiting root development. Newly developing roots of desirable turf may be affected. Turf under stresses such as winterkill, spring dead spot, transitioning ryegrass, Bermudagrass spring root decline, soil compaction, foliar and root diseases, nematodes, salt accumulation, shade, excessive foot or equipment traffic, newly verticut turf, and drought should be carefully evaluated before treatment. Application of Specticle G to turf in these situations may delay turf recovery.

Application of Specticle G to stressed turf may produce symptoms of injury including yellowing, purple discoloration, thinning, and necrosis. If injury occurs, promote recovery through optimizing fertility and other cultural practices.

TURF TOLERANCE

Turf tolerance to Specticle G is acceptable on all labelled turf types and cultivars. Due to the large number of types and cultivars, it is impossible to test every one for tolerance to Specticle G. Neither the Manufacturer nor the Seller has determined whether or not Specticle G can be used safely on turf types and cultivars not specified on this label.

Before using on turf cultivars that are not listed on this label, the applicator must confirm tolerance by testing labelled rates on a small area prior to widespread use.

Tolerant Turfgrasses

- **Bermudagrass*** (*Cynodon dactylon*) (and hybrids)-Baby, Celebration, Common, Floratex, TifSport, Tifton 10, Tifway 419, Princess, Vamont, Riviera, Yukon
- **Zoysiagrass** (*Zoysia spp.*)-Cavalier, Crowne, DeAnza, El Toro, Empire, Jamar, Meyer, Palisades, Zenith, Zeon
- **Centipedegrass*** (*Eremochloa ophiuroides*)- Common, Tifblair
- **St. Augustinegrass*** (*Stenotaphrum secundatum*)-Captiva, Floratam, Floratine, Palmetto, Raleigh
- **Buffalograss** (*Buchloe dactyloides*)
- **Bahiagrass** (*Paspalum notatum*)
- **Seashore paspalum** (*Paspalum vaginatum*)

* Application of Specticle G may temporarily inhibit the rooting of turfgrass stolons.

** Common or off-type Bermudagrass may show increased sensitivity to Specticle G compared to hybrids.

Specticle G may cause unacceptable injury to some turfgrasses. **Do not use** on the following turfgrasses or mixtures containing any of these grasses, unless thinning or removal is desired. For use on grasses in natural areas, see Natural Areas section on this label.

- **Creeping bentgrass** (*Agrostis palustris*)
- **Colonial bentgrass** (*Agrostis capillaris*)
- **Annual bluegrass** (*Poa annua*)
- **Roughstalk bluegrass** (*Poa trivialis*)
- **Fine fescue** (*Festuca rubra*)
- **Turf type tall fescue** (*Festuca arundinaceae*)
- **Kikuyugrass** (*Pennisetum clandestinum*)
- **Perennial ryegrass** (*Lolium perenne*)
- **Annual ryegrass** (*Lolium multiflorum*)
- **Kentucky bluegrass** (*Poa pratensis*)
- **Bermudagrass** (*Cynodon dactylon*) Common "Ormond"

Maximum Single Application Rates for Specticle G on Warm Season Grasses

Turf Type	Specticle G Rate (lbs/acre)	Specticle G Rate (lbs/1000 sq feet)
Bermudagrass	200	4.6
Zoysiagrass	200	4.6
Buffalograss	200	4.6
Bahiagrass	200	4.6
St. Augustinegrass	125	2.9
Centipedegrass	125	2.9
Seashore Paspalum	125	2.9

PRECAUTIONS FOR USE OF SPECTICLE G NEAR SENSITIVE GRASSES

Specticle G applied uphill to sensitive grasses (such as overseeded ryegrass, roughstalk bluegrass (*Poa trivialis*), and bentgrass) can move and cause injury and stand reduction to adjacent sensitive grasses. Allow turf to dry before allowing foot traffic or equipment through treated areas near sensitive grasses. For Lawn Care applications, Specticle G may be applied where labeled warm season grasses are adjacent to sensitive grasses such as tall fescue, Kentucky bluegrass, and perennial ryegrass. The applicator, however, must take care not to apply Specticle G directly to sensitive grasses.

If Specticle G makes contact with sensitive grasses, refer to the "DEACTIVATING Specticle G" section of this label.

USE RATES, TIMINGS, AND MAXIMUM SEASONAL RATE FOR SPECTICLE G ON TURF

Apply Specticle G in a single or split application program. The maximum single application is 200 lbs per acre (4.6 lbs/1000 sq ft). The total amount of Specticle G applied in a 12-month period must not exceed 400 lbs per acre (9.2 lbs/1000 sq ft).

SINGLE APPLICATION PROGRAM

Target Weed	Specticle G Rate Range (lbs/acre)	Specticle G Rate Range (lbs/1000 sq ft)
Crabgrass	125 - 200	2.9 - 4.6
Goosegrass		
Annual Bluegrass		
Broadleaf weeds		
Annual sedge and kyllinga		

SPLIT APPLICATION PROGRAMS

Split applications of Specticle G can be made in a use season to extend the length of control of specific weeds, to control weeds germinating over an extended period, or to control other weeds emerging during the same or overlapping period.

Use Rates for Two Split Applications of Specticle G

Target Weed	Rate Range for Specticle G (initial application)		Rate Range for Specticle G (follow-up application within 45-90 days)	
	In lbs/acre	In lbs/1000 sq ft	In lbs/acre	In lbs/1000 sq ft
Crabgrass	125 - 200	2.9 - 4.6	125-200	2.9-4.6
Goosegrass				
Annual Bluegrass				
Broadleaf weeds				
Annual sedge and kyllinga				

Use Rates for Three Split Applications of Specticle G

Target Weed	Rate Range for Specticle G (initial application)		Rate Range for Specticle G (follow-up application within 30-45 days)	Rate Range for Specticle G (follow-up application within 30-45 days)
	In lbs/acre	In lbs/1000 sq ft	In lbs/acre	In lbs/1000 sq ft
Crabgrass	In lbs/acre	125	125	125
Goosegrass				
Annual Bluegrass				
	In lbs/1000 sq ft	2.9	2.9	2.9

CRABGRASS AND GOOSEGRASS CONTROL

Specticle G provides preemergence control of crabgrass and goosegrass emerging from seed. Specticle G does not control established crabgrass, perennial (continual growth) goosegrass or plants emerging from existing crowns. If goosegrass or crabgrass is evident at time of application, use a labeled post emergent herbicide for control of existing plants.

ANNUAL BLUEGRASS CONTROL

Make preemergence applications of Specticle G between August and November depending on the annual bluegrass germination in each geographical area. The optimum timing is dependent on peak annual bluegrass germination and local conditions in a particular year.

BROADLEAF WEED CONTROL

Specticle G provides preemergence control of many broadleaf weeds. Control is affected by the size of the seed, and the depth of the seed within the soil profile. Large seeded broadleaf weeds or weeds germinating deeper in the soil profile may not be effectively controlled by Specticle G.

ANNUAL SEDGES AND ANNUAL KYLLINGA CONTROL

Specticle G provides preemergence control of sedges and kyllinga emerging from seed. Specticle G does not control established perennial sedges and kyllinga, or sedges emerging from tubers (nutlets) including yellow and purple nutsedge.

Weeds Controlled or Suppressed by Specticle G¹

Broadleaf Weeds	
American black nightshade	<i>Solanum americanum</i>
American Burnweed	<i>Erechtites hieracifolia</i>
Beggarticks	<i>Bidens alba</i>
Bittercress	<i>Cardamine spp.</i>
Black medic²	<i>Medicago lupulina</i>
Buckweat, Wild	<i>Polygonum convolvulus</i>
California burclover	<i>Medicago polymorpha</i>
Canada thistle, Common	<i>Cirsium arvense</i>
Chickweed, Common	<i>Stellaria media</i>
Chamberbitter	<i>Phyllanthus urinaria</i>
Chickweed, Mouse-ear	<i>Cerastium vulgatum</i>
Clover, White	<i>Trifolium repens</i>
Corn speedwell	<i>Veronica arvensis</i>
Cudweed, Linear-leaf/Purple	<i>Gnaphalium purpureum</i>
Cupid's shaving brush	<i>Emilia fosbergii</i>
Curly dock	<i>Rumex crispus</i>
Dandelion, Cat's ear	<i>Hypochoeris radicata</i>
Dandelion, Common	<i>Taraxacum officinale</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Eclipta	<i>Eclipta alba</i>
Evening primrose,Common	<i>Oenothera biennis</i>
Evening primrose, Cutleaf	<i>Oenothera laciniata</i>
False chamomile²	<i>Matricaria maritima</i>
Filaree, Redstem	<i>Erodium cicutarium</i>
Florida pusley	<i>Richardia scabra</i>
Galinsoga	<i>Galinsoga parviflora</i>
Garden spurge	<i>Chamaesyce hirta</i>
Groundsel, Common	<i>Senecio vulgaris</i>
Hairy fleabane	<i>Erigeron bonariensis</i>
Hairy nightshade	<i>Solanum sarrachoides</i>
Henbit	<i>Lamium amplexicaule</i>
Marestail	<i>Conyza canadensis</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lawn burweed	<i>Soliva sessilis</i>
Little mallow	<i>Malva parviflora</i>
London rocket²	<i>Sisymbrium irio</i>
Longstalked phyllanthus	<i>Phyllanthus tenellus</i>
Mustard, Black²	<i>Brassica nigra</i>
Mustard, Wild	<i>Sinapis arvensis</i>
Parthenium	<i>Parthenium hysterophorus</i>
Pigweed, Prostrate	<i>Amaranthus blitoides</i>
Pigweed, Redroot	<i>Amaranthus retroflexus</i>
Pink purslane	<i>Claytonia sibirica</i>
Plantain, Buckhorn	<i>Plantago lanceolata</i>
Plantain, Paleseed	<i>Plantago virginica</i>
Poinsettia, Wild	<i>Euphorbia heterophylla</i>
Prostrate knotweed	<i>Polygonum aviculare</i>
Prostrate spurge	<i>Euphorbia maculata</i>
Puncturevine	<i>Tribulus terrestris</i>
Purslane, Common	<i>Portulaca oleracea</i>
Ragweed, Common²	<i>Ambrosia artemisiifolia</i>
Spurge, Spotted	<i>Euphorbia maculata</i>
Tassel flower	<i>Emilia sonchifolia</i>
Redmaids	<i>Calandrinia caulescens</i>
Sesbania, Hemp²	<i>Sesbania exaltata</i>
Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Sida, Prickly/Teaweed²	<i>Sida spinosa</i>
Southern brassbuttons²	<i>Cotula australis</i>
Sowthistle, Annual	<i>Sonchus oleraceus</i>
Stinkwort	<i>Dittrichia graveolens</i>
Sunflower, Common²	<i>Helianthus annuus</i>
Swinecress	<i>Coronopus didymus</i>
Tropic ageratum	<i>Ageratum conyzoides</i>
Velvetleaf²	<i>Abutilon theophrasti</i>
Vetch, Purple²	<i>Vicia benghalensis</i>
Wild carrot²	<i>Daucus carota</i>
Willowherb	<i>Epilobium brachycarpum</i>
Woodsorrel, Yellow²	<i>Oxalis stricta</i>

GRASSES, MONOCOTS, AND SEDGES	
Annual bluegrass	<i>Poa annua</i>
Annual kylinga ³	<i>Cyperus sesquiflorus</i>
Barnyardgrass, Common	<i>Echinochloa crus-galli</i>
Cheatgrass	<i>Bromus secalinus</i>
Crabgrass, Blanket	<i>Digitaria serotina</i>
Crabgrass, Henry	<i>Digitaria ciliaris</i>
Crabgrass, Large/Hairy	<i>Digitaria sanguinalis</i>
Crabgrass, Smooth	<i>Digitaria ischaemum</i>
Doveweed	<i>Murdannia nudiflora</i>
Fall panicum	<i>Panicum dichotomiflorum</i>
Foxtail brome	<i>Bromus rubens</i>
Foxtail, Giant	<i>Setaria faberi</i>
Foxtail, Green	<i>Setaria viridis</i>
Foxtail, Yellow	<i>Pennisetum glaucum</i>
Goosegrass	<i>Eleusine indica</i>
Guineagrass	<i>Panicum maximum</i>
Kyllinga, Fragrant/Annual ³	<i>Kyllinga odorata</i>
Little barley	<i>Hordeum pusillum</i>
Mouse barley	<i>Hordeum murinum</i>
Red brome	<i>Bromus rubens</i>
Rice flatsedge ³	<i>Cyperus iria</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Ryegrass, Perennial	<i>Lolium perenne</i>
Sandbur	<i>Cenchrus longispinus</i>
Sedge, Annual ³	<i>Cyperus spp.</i>
Sedge, globe ³	<i>Cyperus croceus</i>
Tufted lovegrass	<i>Eragrostis pectinacea</i>

¹Use higher labeled rates if weed pressure is historically high or longer residual control is desired. The rate chosen should not exceed the tolerance for an individual turf type. Weed control can also be achieved with split applications of Specticle G. Do not exceed a total of 400 lbs of product per acre per year (9.2 lbs/1000 sq ft/year) with split applications.

²Weeds suppressed by Specticle G

³Specticle G only controls sedges and kyllinga emerging from seed. It does not control perennial sedge emerging from nutlets or perennial forms of kyllinga.

SEEDING, OVERSEEDING, RE-SEEDING, SPRIGGING AND SODDING

Specticle G can inhibit root development, as well as the emergence of seed. Roots of newly emerged seedlings may be damaged. Establishment of sod may be affected if Specticle G is applied to turf that is not well established. Timing of seeding, re-seeding, overseeding, sprigging, and sodding turf relative to an application of Specticle G needs to be considered. Seeding, overseeding, re-seeding, sprigging, and sodding intervals are affected by the rate of Specticle G applied, rainfall, and soil texture in a given year. Applications made sooner than the suggested intervals may decrease the establishment of the new seedlings and reduce turf coverage.

PLANTING METHOD	MINIMUM INTERVAL BEFORE APPLICATION	MINIMUM INTERVAL AFTER APPLICATION	MINIMUM INTERVAL AFTER APPLICATION
		125 – 150 lbs/A	150 - 200 lbs/A
Seeding	12 months	10 months	12 months
Sprigging	12 months	10 months	12 months
Sodding	4 months	6 months	8 months

APPLICATIONS ON SOD FARMS

Specticle G may be applied to turf on Bermudagrass, zoysiagrass, and bahiagrass sod farms. During new sod establishment, Specticle G may be applied when coverage from ribbons is 80% or greater.

Do not apply Specticle G to centipedegrass, seashore paspalum, or St. Augustinegrass sod. Specticle G may be applied to sod up to 4 months prior to harvest.

ORNAMENTALS

Specticle G may be applied for preemergence weed control in landscape ornamentals. Apply Specticle G, prior to weed seed germination to dormant or actively growing ornamentals as listed in the table below. Apply Specticle G to established ornamentals. Application of Specticle G to budded grafts or graft unions may cause plant injury or plant death.

USE RESTRICTIONS FOR SPECTICLE G ON ORNAMENTALS

- Do not exceed the maximum single application rates specified for each ornamental use.
- Do not allow granules applied "over-the-top" to remain in contact with foliage. Specticle G may cause localized injury to foliage, especially young leaf tissue. For over-the-top applications, remove granules from leaf surfaces with a blower or irrigation.
- Do not use Specticle G on ornamentals where granules may become trapped in developing leaves or in meristematic areas (e.g. whorls of grasses and perennials such as hosta).
- Do not use Specticle G on or around annuals not listed as tolerant on this label.
- Do not use Specticle G in landscape beds within 12 months prior to seeding or 3 months prior to planting.
- Do not use Specticle G around bearing fruit and nut trees. Specticle G may be used around non-bearing fruit and nut trees. Non-bearing trees are defined as trees that will not bear fruit until at least 1 year after treatment.
- Do not use Specticle G around non-bearing fruit trees unless they are at least 1 year old.
- Do not use Specticle G within the dripline of bearing fruit and nut trees.
- Do not incorporate Specticle G into the soil or potting mix.
- Do not cultivate or disturb the soil surface after application of Specticle G as this may reduce weed control.
- If transplanting mature plants listed as tolerant on this label into soil treated with Specticle G within the preceding 12 months, replace existing soil around roots to minimize effects on plant establishment.
- Do not use Specticle G on ornamentals being grown in a greenhouse.
- Do not use Specticle G on nursery seedbeds, rooted cuttings, or young plants in liners.
- Do not apply Specticle G to plants growing in containers less than 6 inches wide.
- Do not apply Specticle G to plants less than 5 inches in height.
- Do not apply Specticle G to drainage ditches.
- Do not apply Specticle G to ornamental bulbs after they have emerged.

USE OF SPECTICLE G ON ORNAMENTALS IN COARSE AND SANDY SOILS

Soil conditions can affect the tolerance of ornamentals to Specticle G. Excessively coarse or sandy soils may allow for downward movement of Specticle G into the root zone and cause significant root damage and phytotoxicity. Coarse soils may include significant quantities of sand, gravel, decomposed granite, and ground cinders. Prior to application of Specticle G on these soils, confirm soil texture with a soil test. Ornamentals grown in soil exceeding 90% sand or 20% gravel may be at risk. If Specticle G is to be applied in these soils, evaluate tolerance of a few plants of each ornamental in Specticle G treated soil for 1-2 months prior to a large scale application.

SYMPTOMS OF SPECTICLE G INJURY ON ORNAMENTALS

Specticle G may injure sensitive ornamentals by damaging roots or leaves. Plants damaged by root absorption will appear stunted, deformed, and may not recover. If granules of Specticle G are allowed to remain in contact with treated plants, leaf symptoms may appear as lesions, discoloration, or curling. Symptoms may appear within 2-4 weeks after application. Newly formed leaves may be undamaged. It is essential that the user assess the severity of any symptoms on cultivars not listed on this label, before proceeding with large-scale applications of Specticle G.

LANDSCAPE ORNAMENTAL USES

Specticle G may be used in residential, commercial, as well as federal, state, and local plantings of ornamentals for preemergence weed control. Apply Specticle G only to established (rooted) plants and not to newly rooted cuttings/or seedlings. To avoid root damage, apply Specticle G around transplants when the soil has firmly settled around the root area. Irrigation or rainfall will help to settle the soil and seal surface cracks. Make applications prior to mulching for best weed control. If Specticle G contacts foliage, brush or wash off to avoid damage. Care must be taken not to get granules on sensitive turf next to landscape beds to avoid possible turf injury. Herbaceous annuals and perennials are sensitive to Specticle G.

Use of Specticle G near Sensitive Grasses

CAUTION: Specticle G applied uphill to sensitive grasses can move, under certain circumstances, to sensitive grasses and cause injury and stand reduction.

Do not apply to landscape beds uphill from ryegrass or mixed lawns where ryegrass is desirable.

AMOUNT TO USE: Apply Specticle G at 125 - 200 lbs of product per acre (2.9 - 4.6 lbs/1000 sq ft) around ornamentals.

A subsequent application of Specticle G can be made within 90 days after the initial application to extend weed control provided that the total Specticle G applied does not exceed 400 lbs per acre (9.2 lbs/1000 sq ft) in a 12 month period.

Application of Specticle G to heavily mulched landscape beds may result in reduced weed control. Specticle G may be applied to lightly mulched area after the mulch has settled.

ORNAMENTALS AND THEIR CULTIVARS TOLERANT TO SPECTICLE G

Tolerant ornamentals and their cultivars are listed in the following table. If a desired plant to be treated is not listed on this label, treat several plants at the maximum use rate and evaluate 1-2 months later for acceptable tolerance. The user assumes responsibility for application to plants not listed in this table. Do not treat annuals not listed on this label.

Common Name	Scientific Name	Cultivar
Abelia	<i>Abelia grandiflora</i>	Little Richard, Edward Gaucher
Arborvitae	<i>Thuja occidentalis</i>	Emerald, Green Giant, Green Flag, Nigra, Techny, Yellow Ribbon
Asparagus fern	<i>Asparagus plumosus</i>	
Aucuba, Japanese/Gold Dust Plant	<i>Aucuba japonica</i>	Variegata
Azalea	<i>Rhododendron spp.</i>	Delaware Valley White, Fashion, Florida Flame, Girard's Rose, Haps Pink, High Tide, Judge Solomon, Karen, Nova Zembla, Mother's Day, Pink Gumpo, Red Ruffle, VF 14, White Gumpo
Azalea, Cat Album	<i>Rhododendron catawbiense</i>	Chionoides
Azalea, Encore	<i>Rhododendron spp.</i>	Autumn Debutante
Azalea, Formosa	<i>Rhododendron indicum</i>	Satsuki
Azalea, Kurme	<i>Rhododendron obtusum</i>	Hino Crimson
Azalea, Macrantha	<i>Rhododendron macrantha</i>	
Barberry	<i>Berberis thunbergii</i> f. <i>atropurpurea</i>	Crimson Pygmy, Rosy Glow
Bayberry, Northern	<i>Myrica (Morella) pennsylvanica</i>	
Beautybush	<i>Linnaea (Kolwitzia) amabilis</i>	
Big bluestem	<i>Andropogon gerardii</i>	
Black Hawthorn	<i>Crataegus douglasii</i>	
Blackberry, European	<i>Rubus fruticosus</i>	Legacy, Ouachita
Bleeding heart vine	<i>Clerodendrum thomsoniae</i>	Bleeding Heart
Bluebird	<i>Caryopteris x clandonensis</i>	Dark Knight
Bluestem, Big	<i>Andropogon gerardii</i>	
Bluestem, Little	<i>Andropogon scoparius</i>	
Bottlebrush, Crimson	<i>Callistemon citrinus</i>	
Bougainvillea	<i>Bougainvillea spp.</i>	Barbara Karst Double Red
Boxwood	<i>Buxus microphylla</i>	Baby Gem, Chicagoland Green, Dwarf, Green Beauty
Boxwood, Common/English	<i>Buxus sempervirens</i>	Green Gem, Green Mountain, Suffructicosa, Winter Gem
Butterfly bush	<i>Buddleia</i>	Nanho Blue
Buttonwood, Silver/Green	<i>Conocarpus erectus</i>	
Camellia, Japanese	<i>Camellia japonica</i>	Margaret Heathcliff Pink
Camellia, Little leaf	<i>Camellia sasanqua</i>	Cleopatra Pink, Shi Shi Gashira
Cedar, Atlantic white	<i>Chamaecyparis thyoides</i>	
Cedar, Japanese	<i>Cryptomeria japonica</i>	Black Dragon, Burkii, Globosa Nana, Yoshino
Chaste Tree	<i>Vitex agnus-castus</i>	Abbeville Blue
Cleyera, Japanese	<i>Ternstroemia gymnanthera</i>	Sotall
Clusia, Dwarf	<i>Clusia guttifera</i>	Nana
Cocoplum	<i>Chrysobalanus icaco</i>	
Coral bells (Heuchera)	<i>Heuchera sanguinea</i>	Ruby Bells, Silver Scrolls
Cotoneaster	<i>Cotoneaster</i>	Coral Beauty
Crape myrtle	<i>Lagerstroemia indica</i>	Burgundy Cotton, Pocomoke Pink, Sarah's Favorite, Siren Red
Crape myrtle	<i>Lagerstroemia indica x fauriei</i>	Miami, Muskogee, Natchez, Tuscarora
Crown of thorns	<i>Euphorbia milli</i>	
Cryptomeria	<i>Cryptomeria japonica</i>	Black Dragon, Yoshino
Cypress, Bald	<i>Taxodium distichum</i>	Shawnee Brave
Cypress, False	<i>Chamaecyparis spp.</i>	Gold Mops, Gold Thread
Cypress, Japanese (Hinoki Cypress)	<i>Chamaecyparis obtusa</i>	Globose Nana
Cypress, Pond	<i>Taxodium distichum</i> var. <i>imbricatum</i>	
Cypress, Leyland	<i>Cupressus x leylandii</i>	
Cypress, Mediterranean	<i>Cupressus sempervirens</i>	Glauca
Daphne	<i>Daphne caucasica</i>	Summer Ice
Deutzia	<i>Deutzia gracilis</i>	Nikko
Euonymus, Spreading	<i>Euonymus kiautschovicus</i>	Manhattan
Euonymus, Variegated boxleaf (Japanese spindle)	<i>Euonymus japonicus</i>	Cholippo, Silver Queen, Variegatum
False holly	<i>Osmanthus heterophyllus</i>	Goshiki
Feather reed grass	<i>Calamagrostis x acutiflora</i>	Overdam, Karl Foerster
Firebush, Dwarf	<i>Hamelia patens</i>	Compacta
Firethorn (Pyracantha)	<i>Pyracantha coccinea</i>	Red Cushion
Florida Leucothe (Pipestem)	<i>Leucothoe populifolia</i>	
Forsythia (Golden bells)	<i>Forsythia x intermedia</i>	Lynwood Gold
Gardenia	<i>Gardenia radicans</i>	
Gardenia	<i>Gardenia jasminoides</i>	Frostproof, Mystery
Gaura	<i>Gaura lindheimeri</i>	Pink Fountain
Gold-dust plant	<i>Aucuba japonica</i>	Gold Dust
Hardy kiwi	<i>Actinidia arguta</i>	Anna
Hawaiian snowbush	<i>Breynia disticha</i>	
Hawthorn, Black	<i>Crataegus douglasii</i>	
Heather	<i>Erica spp.</i>	
Hibiscus, Chinese	<i>Hibiscus rosa-sinensis</i>	President Red, San Diego Red
Hibiscus (Rose mallow)	<i>Hibiscus moscheutos</i>	Luna White
Hibiscus (Rose of sharon)	<i>Hibiscus syriacus</i>	Boule de Feu, Lohengrin, Pink Heart, Red
Holly	<i>Ilex latifolia</i>	Mary Nell
Holly, American	<i>Ilex opaca</i>	
Holly, Chinese	<i>Ilex cornuta</i>	Budfordii Nana, Carissa, Dwarf Burford, Needlepoint
Holly, Dragon lady	<i>Ilex x aquipernyi</i>	Dragon Lady
Holly, Dwarf yaupon	<i>Ilex vomitoria</i>	Schillings, Stoke's Dwarf
Holly, Inkberry/Gallberry	<i>Ilex glabra</i>	Compacta, Densa, Shamrock

Holly, Japanese	<i>Ilex crenata</i>	Compacta, Green Lustre, Sky Pencil, Soft Touch
Holly, Meservae	<i>Ilex meserveae</i>	Blue Maid, Blue Princess
Honeylocust	<i>Gleditsia triacanthos</i>	Sunburst, Sunshine
Honeysuckle, European	<i>Lonicera periclymenum</i>	Harlequin
Honeysuckle, Japanese	<i>Lonicera japonica</i>	
Hosta (before emergence)	<i>Hosta spp</i>	Sum and Substance, Twilight
Iceplant	<i>Delosperma congestum</i>	White Nugget
Iceplant	<i>Delosperma nubigenum</i>	Basutoland
Iceplant, Hardy	<i>Delosperma cooperi</i>	Cooper's Hardy Iceplant, Purple Mountain
Inkberry	<i>Ilex glabra</i>	Densa
Indian hawthorn	<i>Raphiolepis indica</i>	Dwarf Pink, Minor, Pink Lady
Ivy, English	<i>Hedera helix</i>	Thorndale
Ixora	<i>Ixora coccinea</i>	Maui, Maui Red, Maui Yellow
Ixora, Dwarf	<i>Ixora taiwanesis</i>	Petite Pink, Petite Red
Japanese Cleyera	<i>Ternstroemia gymnanthera</i>	
Japanese Mock-orange	<i>Pittosporum tobira</i>	Variegata
Japanese plum yew	<i>Cephalotaxus harringtonia</i>	Fastigiata
Japanese yew	<i>Taxus x media</i>	Densiformis
Jasmine, Asiatic/Yellow star	<i>Trachelospermum asiaticum</i>	Minima
Jasmine, Winter	<i>Jasminum nudiflorum</i>	
Jessamine, Carolina	<i>Gelsemium sempervirens</i>	
Juniper, Chinese	<i>Juniperus chinensis</i>	Gold Tip, Grey Owl, Sea Green, Spartan
Juniper, Creeping	<i>Juniperus horizontalis</i>	Bar Harbor, Blue Rug
Juniper, Flaky	<i>Juniperus squamata</i>	Blue Star
Juniper, Japanese garden	<i>Juniperus procumbens</i>	Nana
Juniper, Parson's	<i>Juniperus davurica</i>	Expansa, Parsonii
Juniper, Shore	<i>Juniperus conferta</i>	Blue Pacific
Kinnikinnick	<i>Arctostaphylos uva-ursi</i>	
Lantana	<i>Lantana camara</i>	Landmark Sunrise Rose
Laurustinus	<i>Viburnum tinus</i>	
Lilac	<i>Syringa x 'Penda'</i>	Bloomerang
Lilac, Common	<i>Syringa vulgaris</i>	
Lilac, Dwarf korean	<i>Syringa meyeri</i>	Palibin
Lilac, Japanese tree	<i>Syringa reticulata</i>	Ivory Silk

(continued)

(continued)

Common Name	Scientific Name	Cultivar
Lilac, Manchurian	<i>Syringa 'pubescens' subsp. Patula</i>	Miss Kim
Lily of the valley shrub	<i>Pieris japonica</i>	Cavatine, Mountain Fire
Liriope (Lilyturf)	<i>Liriope muscari</i>	Aztec Grass, Big Blue, Evergreen Giant, Silvery Sunproof
Liriope (Lilyturf)	<i>Liriope spicata</i>	Silver Carpet
Loropetalum	<i>Loropetalum chinensis</i>	Burgundy, Ruby, Plum Purple, Rubra
Maiden grass (Eulaliagrass)	<i>Miscanthus sinensis</i>	Gracillimus, Zebrinus, Little Zebra
Magnolia, Loebner	<i>Magnolia x loebneria</i>	Leonard Messel
Magnolia, Star	<i>Magnolia stellata</i>	Waterlilly
Maple, Japanese	<i>Acer palmatum</i>	Bloodgood, Weeping Red Dragon
Maple, Red	<i>Acer rubrum</i>	Autumn Blaze, Autumn Radiance, Frank's Red, October Glory, Red Sunset
Mealycup sage	<i>Salvia farinacea</i>	Victoria white
Mondograss	<i>Ophiopogon japonicus</i>	
Muhly Grass	<i>Muhlenbergia capillaris</i>	
Nandina	<i>Nandina domestica</i>	Firepower
Oak, Northern pin	<i>Quercus ellipsoidal</i>	
Oak, Overcup	<i>Quercus lyrata</i>	
Oak, Pin	<i>Quercus palustris</i>	
Oak, Prairie stature	<i>Quercus x bimundorum</i>	Midwest
Oak, White	<i>Quercus alba</i>	Swamp White
Oleander	<i>Nerium oleander</i>	Calypso, Cardinal Red
Palm, Areca	<i>Dypsis lutescens</i>	
Palm, Coconut	<i>Cocos nucifera</i>	
Palm, European (Mediterranean) Fan	<i>Chamaerops humilis</i>	
Passion Vine	<i>Passiflora caerulea</i>	Blue
Periwinkle, Madagascar	<i>Catharathus roseus</i>	Titan Lilac
Photinia	<i>Photinia x fraseri</i>	Birmingham, Red Tip
Pine, Eastern white	<i>Pinus strobus</i>	
Pine, Loblolly	<i>Pinus taeda</i>	
Pine, Mondell	<i>Pinus eldarica</i>	
Pittosporum	<i>Pittosporum tobira</i>	Variegata
Plum, American	<i>Prunus americana</i>	
Plumbago (Cape leadwort)	<i>Plumbago auriculata</i>	Imperial Blue
Podocarpus (Buddhist pine)	<i>Podocarpus macrophyllus</i>	
Potentilla, Shrubby cinquefoil	<i>Potentilla fruticosa</i>	Goldfinger
Prairie Cordgrass	<i>Spartina pectinata</i>	
Privet, Vicary golden	<i>Ligustrum x vicary</i>	Vicary Golden
Pyracantha/Firethorn	<i>Pyracantha coccinea</i>	Red Cushion
Quince, Flowering	<i>Chaenomeles speciosa</i>	
Red cedar, Eastern	<i>Juniperus virginiana</i>	Idyllwild
Rose	<i>Rosa spp.</i>	Caramba, Double Knock Out, Flower Carpet Amber, Home Run, Knock Out, Louis Phillipe, Pink Knock Out, RadrazzPink
Rose	<i>Rosa rugosa</i>	
Rose, Virginia	<i>Rosa virginiana</i>	
Rose Mallow	<i>Hibiscus moscheutos</i>	
Rose of sharon	<i>Hibiscus syriacus</i>	Pink Heart, Boule de Feu
Russian Olive	<i>Elaeagnus angustifolia</i>	
Sage, Mealycup	<i>Salvia farinacea</i>	Victoria White
Schefflera	<i>Schefflera arboricola</i>	Dwarf, Trinette, Variegata
Scotchbroom	<i>Cytisus scoparius</i>	Burkwoodii
Sea Oats	<i>Chasmanthium latifolia</i>	
Sedge, Leather leaf flat	<i>Carex comans</i>	Red Rooster
Serviceberry (Shad brush)	<i>Amelanchier canadensis</i>	
Smoketree	<i>Cotinus coggygria</i>	Royal Purple
Snowberry, Common	<i>Symphoricarpos albus</i>	
Snowbush, Hawaiian	<i>Breynia disticha</i>	
Spiraea	<i>Spiraea japonica</i>	Lemon Princess, Little Princess, Norman, Shirobana
Spruce, Dwarf alberta	<i>Picea glauca</i>	Conica
Stonecrop (1 application)	<i>Sedum spp.</i>	Kamshaticum, Matrona
Stonecrop (1 application)	<i>Sedum ternatum</i>	Larinem Park
Sweet olive, Fragrant tea olive	<i>Osmanthus fragrans</i>	
Switchgrass	<i>Panicum virgatum</i>	Shenandoah
Taxus (Japanese yew)	<i>Taxus x media</i>	Densiformis
Thin-fruit sedge	<i>Carex flaccosperma</i>	
Viburnum	<i>Viburnum awabuki</i>	
Viburnum, Burkwood	<i>Viburnum x burkwoodii</i>	
Viburnum, Popcorn (Japanese snowball)	<i>Viburnum plicatum</i>	Popcorn, St. Veverne
Virginia sweetspire	<i>Itea virginica</i>	
Wax Myrtle, Southern	<i>Myrica cerifera</i> (w/woody growth)	
Witch Alder, Dwarf	<i>Fothergilla gardenii</i>	
Yellow Anise	<i>Illicium parviflorum</i>	
Yellow Indian grass	<i>Sorghastrum nutans</i>	

Do not use Specticle G on any of these plants

Common Name	Scientific Name
Blue fescue grass	<i>Festuca glauca</i>
Croton	<i>Codiaeum variegatum</i>
Dewdrops	<i>Duranta erecta</i>
Fountain grass	<i>Pennisetum alopecuroides</i>
Fountain grass, Purple	<i>Pennisetum setaceum</i>
Hydrangea	<i>Hydrangea macrophylla</i>
Mandevilla	<i>Mandevilla spp.</i>
Privet, Japanese	<i>Ligustrum japonicum</i>
Sweet viburnum	<i>Viburnum odoratissimum</i>
Viburnum	<i>Viburnum suspensum</i>

NATURAL AREAS

Use Specticle G to control weeds in managed natural areas including those on golf courses. These areas can be adjacent to fairways, tees, greens, and in steep areas that are difficult to manage with a traditional program or where low maintenance is desired. Plants in these areas include those indigenous to a geographic area as well as other plants introduced due to their potential for low maintenance or for aesthetic considerations. Use of Specticle G in natural areas allows the user to manage undesirable weeds and prevent germination of invasive plants.

Apply Specticle G around tolerant ornamentals listed on this label to control annual grasses and broadleaf weeds prior to germination. All plants must be established for at least one growing season before an application of Specticle G. If a desired plant to be treated is not listed on this label, treat several plants at the maximum use rate and evaluate 1-2 months later for acceptable tolerance.

Germination of wildflower seed will be sensitive to Specticle G. Seed these into treated areas no sooner than 12 months after an application of Specticle G. Do not make an over-the-top application to wildflowers.

AMOUNT TO USE: Apply Specticle G around ornamentals at 125-200 lbs of Specticle G per acre (2.9-4.6 lbs/1000 sq ft). Activate Specticle G by watering in with light irrigation or rainfall.

**NON-SELECTIVE USES
NON-CROP AREAS**

Specticle G may be used to maintain bare ground in non-crop areas. These include paths, parking lots, curbs, sidewalks, driveways, around buildings, gravel areas, loading ramps, educational facilities, storage yards, vacant lots, fence rows, parks, and hardscapes. All weeds and debris must be removed from the area to be treated for optimum weed control. Irrigation or rainfall after application will provide maximum weed control.

Use of Specticle G near Sensitive Grasses

Specticle G applied uphill to sensitive grasses can move, under certain circumstances, to sensitive grasses and cause injury and stand reduction.

AMOUNT OF USE: Apply 200-400 lbs of Specticle G per acre (4.6-9.2 lbs/1000 sq ft)

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Store in original container and keep tightly closed when not in use. Store in a cool, dry place. Avoid cross-contamination with other pesticides.

PESTICIDE DISPOSAL

Pesticides wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or Hazardous Waste representative at the nearest EPA regional office for guidance in proper disposal methods.

CONTAINER HANDLING

Non-refillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

IMPORTANT: READ BEFORE USE

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 Environmental Science U.S., LLC. 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.

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PRODUCED FOR
Environmental Science U.S., LLC
5000 CentreGreen Way, Suite 400
Cary, NC 27513
Product of Germany

SAFETY DATA SHEET



SPECTICLE® G

Version 3.0 / USA
102000029955

1/11

Revision Date: 05/22/2020
Print Date: 06/17/2022

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

Product identifier

Trade name	SPECTICLE® G
Product code (UVP)	84118273
SDS Number	102000029955
EPA Registration No.	101563-149

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	Environmental Science U.S. LLC. 5000 Centregreen Way, Suite 400 Cary, NC 27513 USA

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-424-9300
Product Information Telephone Number	1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Acute toxicity(Inhalation): Category 4
Carcinogenicity: Category 1B

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Danger

Hazard statements

Harmful if inhaled.

SAFETY DATA SHEET



SPECTICLE® G

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2/11

Revision Date: 05/22/2020
Print Date: 06/17/2022

|| May cause cancer.

Precautionary statements

|| Avoid breathing dust.
|| Use only outdoors or in a well-ventilated area.
|| 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 INHALED: Remove person to fresh air and keep comfortable for breathing.
|| Call a POISON CENTER/doctor/physician if you feel unwell.
|| 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
Indaziflam	950782-86-2	0.0224
Propyl-S-(-)-2-Hydroxy Propionate	53651-69-7	1.1
2-methylpentane-2,4-diol	107-41-5	2.0
Crystalline quartz (respirable)	14808-60-7	0.96

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.

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Revision Date: 05/22/2020
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Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

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), Dry powder, Foam

Unsuitable High volume water jet

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point Not applicable

Auto-ignition temperature No data available

Lower explosion limit Not applicable

Upper explosion limit Not applicable

Explosivity No data available

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 Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

SAFETY DATA SHEET



SPECTICLE® G

Version 3.0 / USA
102000029955

4/11

Revision Date: 05/22/2020
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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. Handle and open container in a manner as to prevent spillage.

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Indaziflam	950782-86-2	0.56 mg/m ³ (TWA)		OES BCS*
2-methylpentane-2,4-diol	107-41-5	125 mg/m ³ /25 ppm (CEILING)	1989	OSHA Z1A
2-methylpentane-2,4-diol (Aerosol, inhalable.)	107-41-5	10 mg/m ³ (STEL)	03 2017	ACGIH
2-methylpentane-2,4-diol (Vapor fraction)	107-41-5	50 ppm (STEL)	03 2017	ACGIH
2-methylpentane-2,4-diol (Vapor fraction)	107-41-5	25 ppm (TWA)	03 2017	ACGIH
2-methylpentane-2,4-diol	107-41-5	125 mg/m ³ /25 ppm (Ceil_Time)	2010	NIOSH

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2-methylpentane-2,4-diol	107-41-5	125 mg/m3/25 ppm (CEILING)	06 2008	TN OEL
2-methylpentane-2,4-diol	107-41-5	125 mg/m3/25 ppm (CEILING)	08 2010	US CA OEL
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.

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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

Appearance	grey to tan
Physical State	granular
Odor	characteristic
Odour Threshold	No data available
pH	ca. 4 - 7 (10 %)
Viscosity, kinematic	No data available
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	No data available
Bulk density	45 - 55 lb/ft ³
Evaporation rate	Not applicable
Boiling Point	Not applicable
Melting / Freezing Point	Not applicable
Water solubility	dispersible
Minimum Ignition Energy	No data available
Decomposition temperature	Stable under normal conditions.
Self-accelarating decomposition temperature (SADT)	No data available
Partition coefficient: n-octanol/water	Not applicable
Flammability	No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable

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Upper explosion limit	Not applicable
Explosivity	No data available
Particle size	No data available

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	Inhalation, Eye contact, Skin contact, Ingestion
Immediate Effects	
Eye	May cause mild irritation to eyes.
Skin	May cause mild irritation to the skin.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2.09 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested
	LC50 (Rat) > 8.36 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.

Acute dermal toxicity	LD50 (Rat) > 5,000 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye	Minimally irritating. (Rabbit)

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irritation

Respiratory or skin sensitisation

Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

Indaziflam: May cause damage to organs in nervous system following oral route.

Assessment STOT Specific target organ toxicity – repeated exposure

Indaziflam caused neurobehavioral effects and/or neuropathological changes in subchronic studies in rats and dogs. Indaziflam: May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Assessment mutagenicity

Indaziflam was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Indaziflam was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

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

Crystalline quartz (respirable)	14808-60-7
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IARC

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

None.

Assessment toxicity to reproduction

Indaziflam was not a primary reproductive toxicant in a two-generation study in rats.

Assessment developmental toxicity

Indaziflam did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

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

Further information

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.572 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient indaziflam.

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Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 9.88 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient indaziflam.
Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 0.134 mg/l Growth rate; Exposure time: 96 h The value mentioned relates to the active ingredient indaziflam.
Toxicity to other organisms	LD50 (Eisenia fetida (earthworms)) > 1,000 mg/kg Exposure time: 14 d The value mentioned relates to the active ingredient indaziflam.
Biodegradability	Indaziflam: Not rapidly biodegradable
Koc	Indaziflam: Koc: 496
Bioaccumulation	Indaziflam: Bioconcentration factor (BCF) 66 Does not bioaccumulate.
Mobility in soil	Indaziflam: Moderately mobile in soils
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. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Dispose in accordance with all local, state/provincial and federal regulations.
Contaminated packaging	Do not re-use empty 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

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IMDG

UN number	3077
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (INDAZIFLAM MIXTURE)

IATA

UN number	3077
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (INDAZIFLAM 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 WEED KILLING, N.O.I. other than poison, HAVING A DENSITY OF 20 LBS OR GREATER PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 101563-149

US Federal Regulations

TSCA list

Bentonite	1302-78-9
2-methylpentane-2,4-diol	107-41-5
Propyl-S-(-)-2-Hydroxy Propionate	53651-69-7

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
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This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

2-methylpentane-2,4-diol 107-41-5 CA, MN, RI

None.

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 8: Exposure Controls / Personal Protection. Section 11: Toxicological Information. Section 14: Transport Information. Reviewed and updated for general editorial purposes.

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