



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

March 6, 2018

Jennifer Hughes  
Regulatory Manager  
Dow AgroSciences, LLC  
9330 Zionsville Road,  
Indianapolis, IN 46268

Subject: Label Amendment – Removing preemergent uses, updating supplemental label for non-crop uses  
Product Name: Sapphire  
EPA Registration Number: 62719-547  
Application Date: 02/05/2018  
Decision Number: 538229

Dear Ms. Hughes:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

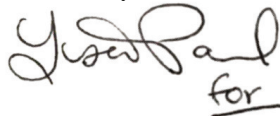
Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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EPA Reg. No. 62719-547  
Decision No. 538229

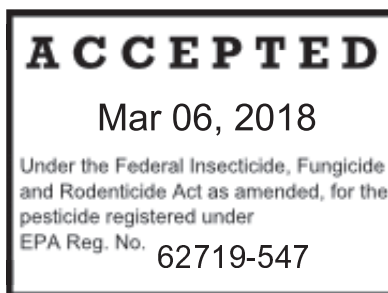
with FIFRA section 6. If you have any questions, please contact Lisa Pabel by phone at (703) 347-0459, or via email at [pabel.lisa@epa.gov](mailto:pabel.lisa@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Erik Kraft", with the word "for" written below it.

Erik Kraft, Product Manager 24  
Fungicide & Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

(Base label):

**Sapphire®****SPECIALTY HERBICIDE**

**For postemergence control of annual and perennial broadleaf weeds in established turfgrass, including residential lawns, golf courses, sports fields, sod farms and around commercial structures and other commercial turfgrass areas, and natural areas (open space) and postemergence control of weeds in non-cropland sites**

Active Ingredient:

penoxsulam: 2-(2,2-difluoroethoxy)-N-(5,8-dimethoxy[1,2,4] triazolo[1,5c]pyrimidin-2-yl)-6-(trifluoromethyl)benzenesulfonamide .....	3.68%
Other Ingredients .....	96.32%
Total .....	100.00%

Contains 0.31 lb of active ingredient per gallon

**Keep Out of Reach of Children****CAUTION****First Aid**

**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. You may contact 1-800-992-5994 for emergency medical treatment information.

**Precautionary Statements****Hazards to Humans and Domestic Animals****Harmful If Inhaled**

Avoid breathing spray mist.

**Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

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

Remove and wash contaminated clothing before reuse. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(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 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.

### **Environmental Hazards**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

#### **(Storage and Disposal for rigid containers 5 gal or less)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Store in cool dry place in original container.

**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:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **(Storage and Disposal for refillable rigid containers larger than 5 gal)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Store in cool dry place in original container.

**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:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)****Storage and Disposal**

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

**Pesticide Storage:** Store in cool dry place in original container.

**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:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure 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 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-547

EPA Est. \_\_\_\_\_

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

**Produced for**  
**Dow AgroSciences LLC**  
**9330 Zionsville Road**  
**Indianapolis, IN 46268**

**NET CONTENTS \_\_\_\_\_**

(Label booklet cover):

# Sapphire®

## SPECIALTY HERBICIDE

**For postemergence control of annual and perennial broadleaf weeds in established turfgrass, including residential lawns, golf courses, sports fields, sod farms and around commercial structures and other commercial turfgrass areas, , and natural areas (open space) and postemergence control of weeds in non-cropland sites**

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Other Ingredients .....	96.32%
Total .....	100.00%

Contains 0.31 lb of active ingredient per gallon

**Keep Out of Reach of Children**

## CAUTION

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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**NET CONTENTS \_\_\_\_\_**

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# CAUTION

#### First Aid

**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. You may contact 1-800-992-5994 for emergency medical treatment information.

#### Harmful If Inhaled

Avoid breathing spray mist.

#### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

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

Remove and wash contaminated clothing before reuse. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exists, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(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 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.

#### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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#### Directions for Use

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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 interval. 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 early entry to 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
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

### **Non-Agricultural Use Requirements**

The requirements of 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.

**Entry Restrictions for Non-WPS Uses:** Keep unprotected persons out of treated areas until sprays have dried.

### **Storage and Disposal**

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

**Pesticide Storage:** Store in cool dry place in original container.

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

#### **Nonrefillable containers 5 gallons or less:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **Refillable containers 5 gallons or larger:**

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then



offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable containers 5 gallons or larger:**

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## Product Information

Use Sapphire® specialty herbicide for postemergence control of annual and perennial broadleaf weeds in established turfgrass, including residential lawns, golf courses, sports fields, sod farms and around commercial structures and other commercial turfgrass areas and postemergence weed control in non-cropland including: airports, communication transmission lines, electrical power and utility rights-of-way, industrial sites, tops and outer banks of irrigation ditches/canals, military lands, mining and drilling areas, non-irrigation ditch banks, gas and oil pads, parking lots, petroleum tank farms, pipelines, railroads, roadsides, storage areas, substations, unimproved rough turf, vacant lots and natural areas (open space) including: restoration sites, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas.

A spray volume of 20 gallons per acre (gpa) or more and uniform coverage will optimize performance. Sapphire is rainfast within one hour after application and has soil residual herbicidal activity dependent upon weed species, soil type, soil moisture (rainfall or irrigation after application) and the rate of application.

## Product Use Restrictions

- Do not apply Sapphire to golf course putting greens.
- Do not apply Sapphire on desirable dichondra, carpetgrass, or bahiagrass or turfgrass containing desirable clovers.
- Do not allow tank mixes of Sapphire to sit overnight if settled material cannot be re-suspended with the spray tank agitation system before application.
- Do not apply Sapphire directly to, or otherwise permit Sapphire to come into contact with, flowers, ornamental shrubs or trees, or other desirable broadleaf plants, as serious injury may occur. Do not permit spray mists containing Sapphire to drift onto desirable broadleaf plants.
- Do not collect grass clippings for use as mulch around plants.
- Do not apply more than 0.5 pint of Sapphire (0.02 lb ai penoxsulam) per acre per application to perennial ryegrass and tall fescue and only if some injury can be tolerated.
- Do not allow sprays of Sapphire to contact exposed suckers or exposed roots of shallow rooted trees and shrubs or injury may occur.
- Do not apply more than 2.3 pints (36 fl oz) of Sapphire (0.09 lb ai penoxsulam) per acre per year.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- Do not make more than 4 applications per year.
- Do not apply more than a total of 1.5 pints (0.06 lb ai penoxsulam) of Sapphire per acre in a single application.

- **Retreatment Interval:** 28 days except for control of perennial ryegrass where the retreatment interval can be shortened to 14 days.

### Product Use Precautions

- To minimize the potential for grass injury, unless the applicator is trying to control perennial ryegrass additional applications must not be made within twenty eight days of a previous application. For control of perennial ryegrass, the retreatment interval can be shortened to 14 days.
- Tank mix a quality nonionic surfactant with all applications of Sapphire.
- Use this product strictly in accordance with the drift and runoff precautions on this label in order to minimize off-site exposure.

### Treatment on Turfgrass Species Not Listed on the Label for Sapphire

Users who wish to use Sapphire on turfgrass species not listed on this label may determine the suitability for use by treating a small area at a specified rate. Prior to treatment of larger areas, the treated area should be observed for any sign of herbicidal injury during 30 days of normal growing conditions to determine if the target turfgrass species is not sensitive.

**Use Sapphire on the following established turfgrass species** (numbers in parentheses (-) refer to footnotes below):

#### Established Cool Season Turfgrass (1)

Common Name	Scientific Name
bentgrass	<i>Agrostis</i> species
bluegrass, Kentucky	<i>Poa pratensis</i>
fescue, chewing	<i>Festuca rubra</i> var. <i>commutata</i>
fescue, creeping red	<i>Festuca rubra</i>
fescue, sheep	<i>Festuca ovina</i>
fescue, tall (2)	<i>Festuca arundinaceae</i>
ryegrass, perennial (2)	<i>Lolium perenne</i>

#### Established Warm Season Turfgrass (3)

Common Name	Scientific Name
bermudagrass (common or hybrid)	<i>Cynodon dactylon</i>
centipedegrass	<i>Eremochloa ophiuroides</i>
fescue, tall (growing in warm season areas) (2)	<i>Festuca arundinaceae</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
seashore paspalum	<i>Paspalum vaginatum</i>
St. Augustinegrass	<i>Stenotaphrum secundatum</i>
zoysiagrass	<i>Zoysia japonica</i>
zoysiagrass	<i>Zoysia tenuifolia</i>

#### Restrictions for Footnotes

1. Use no more than 1 pint of Sapphire (0.04 lb ai penoxsulam) per acre per application.
2. Use Sapphire on these species at a maximum rate of 0.5 pint (0.02 lb ai penoxsulam) per acre per application and only if some injury can be tolerated. A yellowing of turfgrass may occur within two weeks of application. The discoloration is generally gone within four weeks of treatment under adequate growing conditions. Stress to the turfgrass such as heat and drought may increase the potential for turfgrass injury. Under these conditions, more injury may be possible to perennial ryegrass and tall fescue. Use of 0.25 pint (0.01 lb ai penoxsulam) per acre may reduce potential for turfgrass injury.
3. Use no more than 1.5 pints of Sapphire (0.06 lb ai penoxsulam) per acre per application.

#### Spray Drift Management

**Avoiding spray drift is the responsibility of the applicator.** The interaction of many equipment and weather related factors determine the potential for spray drift. Low humidity and high temperatures increase the evaporation rate of spray droplets and, therefore, the likelihood of increased spray drift. Make applications only when there is little or no hazard from spray drift. The applicator, crop consultant, and grower are responsible for considering all of these factors when making the decision to apply this product.

**Avoid all direct or indirect contact with non-target plants.** Do not apply near desirable vegetation. Allow adequate distance between target area and desirable plants to minimize exposure.

**Sensitive Areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., bodies of water, known habitat for threatened or endangered species, non-target plants) is minimal (e.g., when wind is blowing away from the sensitive areas).

### Broadleaf Weeds Controlled or Suppressed

The best weed control with Sapphire is obtained by application to weeds early postemergence when weeds are small and actively growing. Any cultural practices, cultivation, or disturbance of the soil surface after application may decrease the weed control provided by Sapphire.

Application rates at the lower end of the rate range will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or larger weeds), the higher rate within the rate range or repeat applications will be needed. Weeds growing in the absence of competition from other vegetation generally require higher rates or repeat applications to obtain satisfactory control or suppression.

Weeds Controlled		Rate	
		pt/acre	fl oz/1000 sq ft
English lawn daisy <sup>1</sup>		0.25 – 1.5 (4 – 24 fl oz/acre)	0.09 – 0.55
burclover, California Celery, wild chickweed (common) chickweed (mouseear) clover, hop clover, red clover, white cudweed, purple dandelion, common dollarweed evening primrose, cutleaf false dandelion fiddleneck, coast fleabane, hairy fleabane, dwarf Florida betony groundsel, common henbit ivy, ground	lambsquarters lettuce, prickly lespedeza, common loosestrife, loosed-leaf marestail/horseweed medic, black mustard, black mustard, Indian mustard, wild nightshade, black pigweed species pineappleweed plantain, broadleaf plantain, buckhorn parsley-piert purslane, common radish, wild redmaids rocket, London shepherdspurse smartweed, Pennsylvania sowthistle, annual storksbill, long thistle, Russian	0.5 – 1.5 (8 – 24 fl oz/acre)	0.18 – 0.55

	spotted catsear Virginia buttonweed wild violet willowherb		
kyllinga, green (suppression only) <sup>2</sup> nutsedge, purple <sup>2</sup>	nutsedge, yellow <sup>2</sup>	1 – 1.5 (16 – 24 fl oz/acre)	0.37 – 0.55

<sup>1</sup>**Special use instructions for controlling English lawn daisy:**

- Late summer/fall applications of Sapphire have shown to provide better control of English lawn daisy than spring applications.
- Irrigate the day before applications are planned to assure turfgrass and English lawn daisy are not stressed.
- Make two to three applications on a 28-day interval at 0.25 to 0.5 pints of product per acre. Use the higher rate when heavy English lawn daisy populations are observed.
- Tank mix a quality nonionic surfactant (0.25% v/v) with all applications of Sapphire.
- Perennial ryegrass and tall fescue have demonstrated sensitivity to Sapphire. Where these varieties are dominant, multiple applications of 0.25 pint of Sapphire (0.01 lb ai penoxsulam) per acre provide control of English lawn daisy while minimizing turfgrass injury potential. If unsure of the varietal composition of the golf course or turfgrass area, initial testing with Sapphire on a small turfgrass area prior to treatment of large turfgrass areas may be warranted.

<sup>2</sup>Re-treatment may be necessary.

Weeds Suppressed	Rate	
	pt/acre	fl oz/1000 sq ft
Barnyardgrass	0.25 – 1.5 (4 – 24 fl oz/acre)	0.09 – 0.55
filaree, redstem		
knotweed, prostrate		
mallow, common		
mallow, little		
pepperweed, perennial		
sowthistle, perennial		
speedwell		
spurge, prostrate		
spurge, spotted		

## Mixing Instructions

### Sapphire - Alone

Fill spray tank with water equal to 1/2 to 3/4 of the required spray volume. Start agitation. Add the required amount of Sapphire, then finish filling the tank. Continue agitation while filling spray tank to required volume and during application.

### Sapphire - Tank Mix

Sapphire may be applied in tank mix combination with other herbicides labeled for use on turfgrass to control additional weeds. Tank mixing or using Sapphire with any other product not specifically and expressly authorized by the label shall be the exclusive risk of the user, applicator and/or application advisor. When tank mixing, follow label directions, including application rates, use precautions and limitations on each respective label. Continuous agitation is required for tank mixes. 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.

**Tank Mix Restrictions:**

- Do not exceed specified application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For other products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** When tank mixing Sapphire with other materials, a compatibility test (jar test) using relative proportions of the tank mix ingredients should be conducted prior to mixing ingredients in the spray tank. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**Mixing Order:** Fill the tank with water to 1/4 to 1/3 of the required spray volume. Start the agitation. Different formulation types should be added in the following order: dry flowables (DF), wettable powders (WP), aqueous suspensions (AS), flowables (F), or liquids (L). Allow each product type to completely disperse before adding another. Continue agitation and fill tank to 3/4 full, add the correct quantity of Sapphire and mix thoroughly. Finally, add any solution (S) formulations, agitate and finish filling. Maintain agitation during filling and during application. If spraying and agitation must be stopped before the tank is empty, suspended materials may settle to the bottom. It is important to resuspend all of the settled material before continuing application. A sparger agitator is particularly useful for this purpose. Do not allow tank mixes to set overnight.

**Application Directions****Standard Volume Broadcast Application**

Apply in a spray volume of 20 gpa or more (0.5 gallons or more per 1000 sq ft). Use a higher application volume when complete and uniform application must be ensured, i.e., when Sapphire is tank mixed with foliar fertilizers. If required, spray volume up to 200 gpa may be used.

**Low Volume Application**

Apply in a spray volume of 5 to 20 gpa (0.08 to 0.5 gallons per 1000 sq ft). Use low pressure and application equipment capable of delivering a uniform spray droplet. To improve spray coverage, the addition of a nonionic surfactant at a rate of 1/4 to 1/2 pint per acre is suggested. Use the higher rate of surfactant for lower rates of Sapphire and lower spray volumes.

**Spot Treatments and/or Hand-Held Sprayers**

Spot treatments shall be applied at rates equivalent to broadcast applications.

**Hand-Held Sprayers:** When treating a small area, apply Sapphire with a calibrated sprayer that assures accurate, uniform spray distribution. In general, Sapphire should be mixed thoroughly with clean water and applied at 20 to 40 psi in a minimum of 1 gallon of water per 1000 sq ft.

**Rates and Timing of Application**

Apply Sapphire to turfgrass at the rate of 0.25 to 1.5 pint per acre as a ground broadcast treatment or spot treatment. Calibrate application equipment prior to use according to manufacturer's directions. Avoid skips or overlaps as poor weed control or plant injury may occur.

**Broadcast Rates of Sapphire**

Rate pint/acre	Amount (1000 sq ft)	
	fl oz <sup>1</sup>	mL

1.5	0.55	16.5
1	0.37	11.1
0.5	0.18	5.4
0.25	0.09	2.7

<sup>1</sup>1 fl oz = 29.6 (30) mL

Best weed control results are obtained when Sapphire is applied to small, actively growing weeds. Extreme growing conditions or stress such as drought or near freezing temperatures prior to, at, or following time of application may reduce weed control. Broadleaf weed species germinate at different times.

Apply Sapphire to newly seeded cool season turfgrass only after the third mowing or after the turfgrass seedlings have tillered and developed an adequate secondary root system. Reseeding is not advised for at least four weeks after application.

This product may also be applied to newly established warm season turfgrass. Delay treatments until two to four weeks after sodding, sprigging or plugging.

### **Control of Perennial Ryegrass Overseeded in Bermudagrass Turf**

Sites for use would include: golf course tees, collars, fairways, roughs, and approaches in which bermudagrass turf has been overseeded with perennial ryegrass. Sapphire may also be used on sports fields, residential and commercial bermudagrass lawns that have been overseeded.

Use Sapphire at 24 fl oz/A with a non-ionic surfactant at 0.25% v/v on perennial ryegrass overseeded in bermudagrass turf and volunteer \* ryegrass in non-overseeded turf.

Treatments should be applied when removal of ryegrass is desired to accelerate the transition to the existing perennial bermudagrass. Applications can be made when weather conditions are suitable for bermudagrass regrowth. The best time for application within the transition periods will vary by location. The effectiveness of ryegrass removal and duration of this transition is dependent upon environmental factors such as temperature, rainfall and mowing height of the turf.

Sapphire has not been observed to inhibit regrowth of bermudagrass when applied as directed. Sapphire removal of ryegrass has been shown to be a comparatively smooth and gradual process. The typically slow ryegrass removal in conjunction with the lack of inhibition of bermudagrass, results in a comparatively stable turf quality during transition.

\*Does not include mature or clumpy ryegrass.

### **Non-cropland Sites**

Use Sapphire specialty herbicide for postemergence control of annual and perennial broadleaf weeds in non-cropland including: airports, communication transmission lines, electrical power and utility rights-of-way, industrial sites, tops and outer banks of irrigation ditches/canals, military lands, mining and drilling areas, non-irrigation ditch banks, gas and oil pads, parking lots, petroleum tank farms, pipelines, railroads, roadsides, storage areas, substations, unimproved rough turf, vacant lots and natural areas (open space) including: restoration sites, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas. For postemergence application and control of susceptible annual and perennial broadleaf weeds, apply Sapphire with a non-ionic surfactant at 0.25% v/v.

For total vegetation control on a site where no vegetation is desired, tank mixing this product with other herbicides may be necessary depending on the weeds on the site and their stage of growth at application.

Control existing vegetation by cultivation, hand weeding, or use of a postemergence herbicide in a tank mix with Sapphire.

### Broadleaf Weeds Controlled or Suppressed

Generally, application rates at the lower end of the rate range will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species, perennials, and under conditions where control is more difficult (plant stress conditions such as drought or extreme temperatures, dense weed stands and/or larger weeds), the higher rate within the rate range or repeat applications will be needed. Weeds growing in the absence of competition from other vegetation generally require higher rates or repeat applications to obtain satisfactory control or suppression.

Weeds Controlled or Suppressed	Rate	
	Fl oz/acre	Fl oz/1000 sq ft
Chickweed (common) Chickweed (mouseear) Clover, hop Clover, red Clover, white Dandelion, common Dollarweed English-lawn daisy False dandelion Florida betony Ivy Ground lespedeza, common medic, black Plantain, broadleaf Plantain, buckhorn Parsley-piert Virginia buttonweed	13-24	0.30 – 0.55
Kyllinga, green (suppression only) <sup>1</sup> Nutsedge, purple <sup>1</sup> Nutsedge, yellow <sup>1</sup>	16-24	0.37 – 0.55

<sup>1</sup>Re-treatment may be necessary.

### Specific Use Restrictions

- Refer to Mixing Directions section for tank mixing precautions. 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.
- Do not apply more than 2.3 pints (36 fl oz) of Sapphire (0.09 lb ai penoxsulam) per acre per year.
- Do not apply more than a total of 24 fl. oz. (0.06 lb ai penoxsulam) of Sapphire per acre in a single application.
- Do not graze livestock or feed the forage cut from areas treated with Sapphire.
- For postemergence control of susceptible annual and perennial broadleaf weeds, apply Sapphire with a non-ionic surfactant at 0.25% v/v.
- Do not make more than 2 application(s) per year.
- **Retreatment Interval:** 28 days

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### Terms and Conditions of Use

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid.

Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

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### **Warranty Disclaimer**

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Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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### **Inherent Risks of Use**

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

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### **Limitation of Remedies**

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

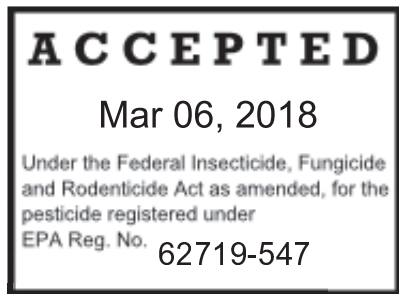
To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

To the extent permitted by law, the terms of the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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EPA accepted \_\_/\_\_/\_\_





# Supplemental Labeling



**Dow AgroSciences**

**Dow AgroSciences LLC      9330 Zionsville Road      Indianapolis, IN 46268-1054  
USA**

**Sapphire®**  
EPA Reg. No. 62719-547

**This supplemental label expires on May 6, 2021 and must not be used or distributed after this date.**

## Use of Sapphire on Noncropland Areas

### ATTENTION

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Sapphire® specialty herbicide before applying. Carefully follow all precautionary statements and applicable use directions.
- Use of Sapphire according to this supplemental labeling is subject to all use precautions and limitations imposed by the label affixed to the container for Sapphire.

### Directions for Use

Refer to product label for Precautions and Restrictions, Mixing Instructions and Application Directions.

### Noncropland Sites

Use Sapphire specialty herbicide for postemergence control of annual and perennial broadleaf weeds in non-cropland including: airports, communication transmission lines, electrical power and utility rights-of-way, industrial sites, tops and outer banks of irrigation ditches/canals, military lands, mining and drilling areas, non-irrigation ditch banks, gas and oil pads, parking lots, petroleum tank farms, pipelines, railroads, roadsides, storage areas, substations, unimproved rough turf, vacant lots and natural areas (open space) including: restoration sites, campgrounds, parks, prairie management, trails and trailheads, recreation areas, wildlife openings and wildlife habitat and management areas. For postemergence application and control of susceptible annual and perennial broadleaf weeds, apply Sapphire with a non-ionic surfactant at 0.25% v/v.

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- For postemergence control of susceptible annual and perennial broadleaf weeds, apply Sapphire with a non-ionic surfactant at 0.25% v/v.
- Do not make more than 2 application(s) per year.
- **Retreatment Interval:** 28 days

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R354-006

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R354-003.