



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

5481-585

Date of Issuance:

8/28/15

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

AMV4820

Name and Address of Registrant (include ZIP Code):

Julie Porter  
AMVAC Chemical Corporation  
4695 MacArthur Court, Suite 1200  
Newport Beach, CA 92660

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.
2. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.

Signature of Approving Official:

Hope Johnson, Product Manager 21  
Fungicide Branch, Registration Division (7505P)

Date:

8/28/15

3. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 5481-585.”
  - Add an appropriate EPA Establishment Number and Net Contents information
4. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 03/04/2015

If you have any questions, please contact me by phone at (703) 305-5410, or via email at [johnson.hope@epa.gov](mailto:johnson.hope@epa.gov).

Enclosure

Aug 28, 2015

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 5481-585

# AMV4820

## FLOWABLE TURF FUNGICIDE

### ACTIVE INGREDIENT: (% by weight)

Pentachloronitrobenzene (PCNB)..... 37.82%

Tebuconazole ..... 2.50%

**INERT INGREDIENTS:**..... 59.68%

**TOTAL:** ..... 100.00%

Contains 4.00 lbs. of Pentachloronitrobenzene per U.S. gallon

Contains 0.265 lbs. of tebuconazole per U.S. gallon (Contains petroleum distillates)

### KEEP OUT OF REACH OF CHILDREN CAUTION

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

FIRST AID	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything to an unconscious person</li> </ul>

### EMERGENCY INFORMATION

**Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:**

For Medical Emergencies phone:.....1-888-681-4261  
 For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC® .....1-800-424-9300  
 For Product Use Information phone : AMVAC® .....1-888-462-6822

### NOTE TO PHYSICIAN

Contains petroleum distillate. Vomiting may cause aspiration pneumonia

SEE SIDE/BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE.

EPA Reg. No. 5481-XXXX

NET WEIGHT: \_\_\_Lbs

EPA Est. No. \_\_\_\_\_



4100 E. Washington Blvd.  
Los Angeles, CA 90023 U.S.A  
1-888-462-6822

---

## PRECAUTIONARY STATEMENTS

---

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Harmful if swallowed or absorbed through the skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove and wash contaminated clothing before reuse. Wear: long-sleeved shirt and long pants, socks, shoes and gloves.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below.

#### **Applicators and other handlers (other than mixers and loaders) must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or nitrile rubber, or neoprene rubber or viton
- Shoes plus socks

#### **Mixers and Loaders Must Wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, or nitrile rubber, or neoprene rubber or viton
- Shoes plus socks
- For exposures in enclosed areas: A respirator with an organic vapor-removing cartridge with a combination filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE combination filter.
- For exposure outdoors: Particulate filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

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(d)(6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **User Safety Requirements**

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### **USER SAFETY RECOMMENDATIONS**

Users should:

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

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. 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 cleaning equipment or disposing of equipment washwaters.

**Ground Water Advisory:** Tebuconazole is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are

permeable, particularly where the water table is shallow, may result in ground-water contamination.

**Surface Water Advisory:** This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted within 48 hours.

---

## **DIRECTIONS FOR USE**

---

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

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

---

## **APPLICATION INFORMATION**

---

AMV4820 controls turfgrass diseases by systemic and contact action. Applications that use sufficient water volume to provide thorough and uniform coverage of the turfgrass provide the most consistently effective disease control. Apply AMV4820 to turfgrass that is well established, actively growing and not under excessive heat or moisture stress or drought stress. Apply at labeled interval to maintain disease control or use as part of a program that consists of a sequence of fungicide active ingredients specific for diseases that are historically active on the turfgrass site when it is predisposed by environmental or agronomically-induced conditions. Apply the specified amount of AMV4820 in 1 to 4 gallons of water per 1,000 square feet (43.65 to 174.24 gallons per acre) of turfgrass. Apply AMV4820 after mowing turfgrass. Do not mow treated turf for 24 hours after AMV4820 has been applied. Do not apply AMV4820 when daytime high temperatures exceed 85° F. Applications of AMV4820 should be followed by 0.1 to 0.25 inches of irrigation water or rainfall on the day of application. Treated areas should be irrigated if sufficient rainfall does not occur on the day of application. All applications of AMV4820 must be made in accordance with the directions for use on this label.

## **RESTRICTIONS**

- Only for use on golf course turf – greens, tees and fairways only.
- Do not use on golf course roughs.
- Do not apply by aerial application.
- Do not apply this product through any type of irrigation system.
- Use of AMV4820 is prohibited on golf course roughs; residential sites, including lawns, yards, and ornamental plants and gardens around homes and apartments; grounds around day care facilities; school yards; parks; playgrounds; and athletic fields.
- Mixers and Loaders cannot handle more than 150 gallons of product per day (equivalent to 601 lb AI of PCNB/day).
- Use of any hand-held application equipment is prohibited.
- Apply by ground boom application only
- Do not use on turf grown for sale or commercial use as sod.
- Maximum single application rate is 12 fluid ounces of AMV4820 per 1,000 square feet (4.08 gallons per acre; 16.34 lb AI/A of PCNB and 1.08 lb AI/A of tebuconazole).
- Do not exceed 32 fluid ounces of AMV4820 per 1,000 square feet per year (10.89 gallons per acre per year; 43.56 lb AI/A of PCNB and 2.89 lb AI/A of tebuconazole).

- Do not make more than 4 applications per year.
- Do not make more than 3 applications per year in New York State.
- Do not use clippings for animal feed.
- Do not make applications when conditions favor drift.
- Observe the following restrictions when applying in the vicinity of aquatic areas such as lakes, reservoirs, rivers, permanent streams, marshes or natural ponds and estuaries:
  - Do not apply within 100 feet of aquatic areas or sensitive areas listed below.
  - Maintain a 10 foot wide non-cultivated vegetative strip to prevent movement into bodies of water.

Disease Application Rate Table

Target Disease	Fl.Oz. of Product per 1,000 SQFT	Product Per Acre	lb AI/A	Application Interval	Application Information
Anthracnose ( <i>Colletotrichum cereale</i> )	4 to 8 fl.oz.	1.36 to 2.72 gallons (5.5 to 11 quarts)	5.45 to 10.89 (PCNB)	14 - 21 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.36 to 0.72 (tebuconazole)		
Brown Patch ( <i>Rhizoctonia solani</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Brown Ring Patch ( <i>Waitea circinata</i> var. <i>circinata</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications at the early stage of symptom development or when conditions become favorable for disease development. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Cool Season Brown Patch/ Yellow Patch ( <i>Rhizoctonia cerealis</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	21 - 28 Days	Make 1 to 2 applications when conditions are favorable for disease development. Use the higher rate and shorter interval under high disease pressure or for early-curative applications. Do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Dollar Spot ( <i>Sclerotinia homoeocarpa</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Fairy Ring (caused by basidiomycete fungi)	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	28 Days	Initiate applications preventatively in late winter/early spring when soil temperature averages 55-60° F over 5 days at a 2 inch depth. Water in the treatment to the depth at which fairy ring is present. Use the low rate when disease pressure is low. Use the high rate when disease pressure is
			0.54 to 0.72 (tebuconazole)		

Target Disease	Fl.Oz. of Product per 1,000 SQFT	Product Per Acre	lb AI/A	Application Interval	Application Information
					high. Do not apply to overseeded bermudagrass during spring transition. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
Gray Leaf Spot ( <i>Pyricularia grisea</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Large Patch (Zoysia Patch) ( <i>Rhizoctonia solani</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	28 Days	Initiate applications preventatively in the fall and spring. Make 1 to 2 applications when conditions are favorable for disease development. Fall applications should be initiated when 2-inch depth soil temperatures are 72-75° F. Spring application should be made after approximately 50% green-up. Use the low rate when disease pressure is low and the high rate when disease pressure is high. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Microdochium Patch ( <i>Microdochium nivale</i> )	8 to 12 fl.oz.	2.72 to 4.08 gallons (11 to 16.3 quarts)	10.89 to 16.34 (PCNB)	28 Days	Initiate applications preventatively when the turf is moist and temperatures range from 32-65° F without snow cover. Use the higher rate when disease pressure is high. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.72 to 1.08 (tebuconazole)		
Necrotic Ring Spot ( <i>Ophiosphaerella korrae</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	28 Days	Initiate applications preventatively as conditions become favorable for disease development. Lightly water-in application to move fungicides into the crown and root zone. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Pink Patch ( <i>Limonomycetes roseipellis</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Red Thread ( <i>Laetisaria fuciformis</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		

Target Disease	Fl.Oz. of Product per 1,000 SQFT	Product Per Acre	lb AI/A	Application Interval	Application Information
Rust ( <i>Puccinia</i> spp.)	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively as conditions become favorable for disease development. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Snow Mold, Gray ( <i>Typhula</i> spp.) or Pink ( <i>Microdochium nivale</i> )	8 to 12 fl.oz.	2.72 to 4.08 gallons (11 to 16.3 quarts)	10.89 to 16.34 (PCNB)	NA	Apply in late fall immediately prior to lasting snow cover. Use the higher rate in areas where snow cover may exceed three months or if the course has a history of infection by <i>Typhula ishikariensis</i> . Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.72 to 1.08 (tebuconazole)		
Spring Dead Spot ( <i>Ophiosphaerella korrae</i> , <i>O. herpotricha</i> , <i>Leptosphaeria korrea</i> , <i>L. namari</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	28 Days	Initiate applications preventatively when soil temperature drops below 75° F at a 2-inch soil depth in the fall. Lightly water-in application to move fungicides into the crown and root zone. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Summer Patch ( <i>Magnaporthe poae</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively when soil temperature reaches 65° F at a 2-inch soil depth. Use adequate spray volume or water-in application to crowns and upper roots for optimum control. Use the higher rate and shorter interval under high disease pressure. Reapply as needed, but do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Take-all Patch ( <i>Gaeumannomyces graminis</i> var. <i>avenae</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	14 - 28 Days	Initiate applications preventatively in the fall when soil temperature reaches 60-65° F at a 2-inch depth. Treat again in the spring when soil temperature reaches 55-60° F at a 2-inch depth. Water-in application to the upper root zone. Under high disease pressure, make two applications in the fall and spring at the high rate. Do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		
Take-all Root Rot, Bermudagrass Decline, Warm Season Turfgrass Decline ( <i>Gaeumannomyces graminis</i> var. <i>graminis</i> )	6 to 8 fl.oz.	2.04 to 2.72 gallons (8 to 11 quarts)	8.17 to 10.89 (PCNB)	28 Days	Initiate applications preventatively in the spring and fall. Make 1-2 applications before conditions become favorable for disease development. Apply before periods of stress, including hot, humid conditions or extended wet weather. Apply in adequate water volume or water-in application to upper root zone. Do not exceed 32 fl.oz. per 1,000 square feet per year. Do not make more than 4 applications per year (3 applications per year in New York State).
			0.54 to 0.72 (tebuconazole)		



## Application Dilution Chart

Application Volume (Gallons per 1,000 Square Feet)	Application Rate		Quarts of AMV4820 Diluted to These Volumes of Finished Spray			
	Fl.Oz. of Product per 1,000 SQFT	Product Per Acre	25 Gallons	50 Gallons	100 Gallons	200 Gallons
1	4 fl.oz.	1.36 gallons (5.5 quarts)	3.125	6.25	12.5	25
	6 fl.oz.	2.04 gallons (8.2 quarts)	4.69	9.38	18.75	37.5
	8 fl.oz.	2.72 gallons (11 quarts)	6.25	12.5	25	50
	12 fl.oz.	4.08 gallons (16.3 quarts)	9.375	18.75	37.5	75
2	4 fl.oz.	1.36 gallons (5.5 quarts)	1.56	3.125	6.25	12.5
	6 fl.oz.	2.04 gallons (8.2 quarts)	2.34	4.69	9.38	18.75
	8 fl.oz.	2.72 gallons (11 quarts)	3.125	6.25	12.5	25
	12 fl.oz.	4.08 gallons (16.3 quarts)	4.7	9.4	18.75	37.5
3	4 fl.oz.	1.36 gallons (5.5 quarts)	1.04	2.08	4.2	8.3
	6 fl.oz.	2.04 gallons (8.2 quarts)	1.56	3.12	6.3	12.45
	8 fl.oz.	2.72 gallons (11 quarts)	2.08	4.2	8.3	16.7
	12 fl.oz.	4.08 gallons (16.3 quarts)	3.125	6.25	12.5	25
4	4 fl.oz.	1.36 gallons (5.5 quarts)	0.78	1.56	3.125	6.25
	6 fl.oz.	2.04 gallons (8.2 quarts)	1.17	2.34	4.69	9.38
	8 fl.oz.	2.72 gallons (11 quarts)	1.56	3.125	6.25	12.5
	12 fl.oz.	4.08 gallons (16.3 quarts)	2.34	4.7	9.4	18.75

### MIXING AND CHEMICAL COMPATIBILITY INFORMATION

Use clean and properly calibrated spray equipment. Follow the recommendations of your State Cooperative Extension Service, consultant or pest control advisor for tank-mixing with other products. To tank-mix, add one half of the necessary volume of water to the spray or mixing tank and start agitation. Add AMV4820 and tank-mix partner products to the tank in the following order: 1) water-soluble packets (wait for packets to completely dissolve); 2) wettable powders and water-dispersible granular products; 3) AMV4820 and other liquid flowables or suspension concentrates; 4) emulsifiable concentrates; and 5) water soluble fertilizers, such as AMS or UAN, and other spray additives. Complete tank filling by adding water to achieve the desired final volume. Maintain agitation throughout the application. Do not

allow the spray mixture to remain in the tank overnight or for long periods of time during the day without agitation.

AMV4820 is compatible with most commonly used turf fungicide, insecticide, herbicide, plant growth regulator and foliar nutrient products. However, the physical compatibility of AMV4820 with all potential tank-mix partners has not been investigated. If tank-mixing with other products is desired, conduct a jar test with a small volume of the same proportion of water and pesticides being considered for turfgrass application. Pour the appropriate quantity of water in a small jar and add the proportionate amounts of products in the following order: 1) wettable powders and water-dispersible granular products; 2) AMV4820 and other liquid flowables or suspension concentrates; and 3) emulsifiable concentrates; and 4) water soluble fertilizers, such as AMS or UAN, and other spray additives. After mixing thoroughly, let the mixture stand for at least 15 minutes then observe for signs of separation, globules, sludge, flakes or other precipitates. Physical compatibility is confirmed if the combination remains mixed or can be remixed readily by shaking lightly.

Tank-mixtures of AMV4820 with other pesticides registered for use on golf courses must be applied in accordance with the most restrictive of label restrictions, limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with a label prohibition against such mixing. When tank-mixing with other products, it is the responsibility of the end-user/applicator to ensure that the tank-mix partner is registered in the state where the application is being made. Not all products are registered in all states; please verify state registration of all tank-mix products in your state before selling, distributing or using.

**SPRAY ADDITIVES:** Use of spray additives such as spreaders, stickers, extenders, trace elements or fertilizers should be evaluated on a small scale before widespread applications are made to turf areas. The label directions for use provided here are based on data obtained with no additives and the use of these products with AMV4820 may affect the results. Contact local university extension service personnel or an AMVAC representative before using spray additives with AMV4820.

### **RESISTANCE MANAGEMENT**

The active ingredients in AMV4820 belong to the Sterol Inhibitor or Demethylation Inhibitor (FRAC Group 3) and aromatic hydrocarbon (FRAC Group 14) classes of chemistry. To maintain the long-term effectiveness of AMV4820, it should be incorporated into seasonal turfgrass disease management programs that utilize as many modes of action as possible to control target diseases. Turfgrass agronomic and cultural practices that reduce overall disease pressure are a critical component of resistance management. Contact your local university cooperative extension service personnel for information on fungicide resistance management in turf.

### **SPRAY DRIFT MANAGEMENT**

Application equipment and weather affect spray drift. Consider all factors when making application decisions. Where states have more stringent regulations, they must be observed when applying AMV4820. Avoiding spray drift is the responsibility of the applicator or turfgrass manager. To reduce the potential for drift, the application equipment must be adjusted to produce medium to large droplets (i.e., ASAE Standard 572) with corresponding spray pressure. Use high flow rate nozzles to apply the highest practical spray volume, using the appropriate droplet size to ensure adequate turf canopy distribution, coverage and penetration. With most nozzle types, narrower spray angles produce larger droplets. Follow the nozzle manufacturer's directions on pressure, orientation, spray volume, etc., to minimize drift and optimize coverage and control.

**WIND:** Make applications when wind velocity favors on-target deposition (approximately 3 to 10 mph). Avoid making applications when spray particles may be carried by air currents outside the targeted treatment area. Do not apply when wind velocity exceeds 15 mph. Avoid applications when wind gusts approach 15 mph. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications

when wind direction is toward the aquatic area. Always make applications when there is some air movement to determine the direction and distance of possible spray drift. Local terrain may influence wind patterns. The applicator should be familiar with local conditions and understand how they may impact spray drift. Boom or nozzle shielding can reduce the effects of wind or air currents on drift. Verify that shields do not interfere with uniform deposition of product before application.

**TEMPERATURE AND HUMIDITY:** High temperatures and/or low humidity increase the evaporation rate of spray droplets and therefore the likelihood of spray drift. Avoid spraying during high temperature and/or low humidity conditions.

**TEMPERATURE INVERSION:** A surface temperature inversion (i.e., increasing air temperature with increasing altitude) greatly increases the potential for drift. Do not apply during a temperature inversion. Avoid application when conditions are favorable for the formation of an inversion. Presence of ground fog is a good indicator of a surface temperature inversion. The applicator may detect the presence of an inversion by producing smoke and observing whether a smoke layer forms near the ground surface.

**SENSITIVE AREAS:** Sensitive areas for AMV4820 are defined as bodies of water (ponds, lakes, rivers and streams), wetlands, habitats for endangered species and agricultural crop areas. Applicators must take all necessary precautions to keep spray drift from reaching sensitive areas.

#### **TURFGRASS TOLERANCE**

Apply to turfgrass that is well established, actively growing and not under excessive heat or moisture stress or drought stress. Use AMV4820 in accordance with label use instructions on:

- All cool-season turfgrasses such as bentgrasses, bluegrasses, fescues, ryegrasses and mixtures thereof.
- Warm-season grasses such as St. Augustinegrass, seashore paspalum, kikuyugrass and zoysiagrass.

Tank-mixing AMV4820 with a pigment containing product will provide an added measure of turf tolerance and will enhance overall turf quality. Colonial bentgrass is generally more vulnerable to injury than is creeping bentgrass. Bermudagrasses tolerate applications of AMV4820 when daily temperatures do not exceed 85° F immediately before or after application. Avoid application to bermudagrass during spring transition and ensure that complete green-up has occurred to avoid any potential growth inhibition.

The turf safety of AMV4820, both applied alone and in combination with all potential tank-mix partners, has not been tested on all turfgrass species and varieties under varying agronomic practices and environmental conditions. Before making widescale applications of AMV4820, a small area should be treated and observed for at least one week after application to ensure turf safety under local conditions.

#### **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container closed when not in use. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### **CONTAINER HANDLING:**

Nonrefillable container. Do not reuse or refill this container.

For containers 5 gallons in size or smaller:

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.

For containers larger than 5 gallons:

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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.

---

#### **LIMITED WARRANTY AND DISCLAIMER**

---

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, when it is used in accordance with such directions; and (c) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

**THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE, TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF QUALITY OR PERFORMANCE. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS OR CAUTIONS.**

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW MANUFACTURER OR SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.**

AMVAC offers this product, and Buyer accepts it, subject to the foregoing Limited Warranty which may be varied only by agreement in writing signed by an authorized representative of AMVAC.

© 2015 AMVAC Chemical Corporation. All Rights Reserved. AMVAC and the BEAKER logo are trademarks, registered in the U.S. and some other countries, of AMVAC Chemical Corporation. CHEMTREC is a trademark of American Chemistry Council, Inc.

AMVAC Chemical Corporation  
4100 E. Washington Blvd.  
Los Angeles, CA 90023 U.S.A.  
1-888-462-6822