



# TORQUE™ FUNGICIDE

For control of listed diseases on ornamentals and golf courses.

GROUP **3** FUNGICIDE

## ACTIVE INGREDIENT:

Tebuconazole:  $\alpha$ -[2-(4-chlorophenyl)ethyl]- $\alpha$ -(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol . . . . . 38.7%

**OTHER INGREDIENTS** . . . . . 61.3%

**TOTAL** . . . . . 100.0%

Contains 3.6 pounds Tebuconazole per gallon

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</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 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 eye.</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>

**Note to Physician:** No specific antidote. Treat symptomatically. The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Emergency Medical Assistance, call the National Pesticide Information Center 1-800-858-7378.

For chemical emergency: spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

EPA Reg. No. 1001-87

Manufactured for:  
**CLEARY CHEMICAL, LLC**  
 178 Ridge Rd, Suite A  
 Dayton, NJ 08810-1501

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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride or Viton
- 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.

#### USER SAFETY RECOMMENDATIONS

**Users should:**

- Wash thoroughly with soap and water after handling and 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.

#### ENVIRONMENTAL HAZARDS

This pesticide is toxic to mammals, fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

**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 or 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.





### 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 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
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride or viton
- Shoes plus socks

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box only 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.

Turf and Landscape Uses: Keep children and pets out of treated areas until sprays have dried.

### GENERAL INFORMATION

**Read the entire Directions for Use and Conditions of Sale before using this product.**

**Chemigation:** Do not apply this product through any type of irrigation system.

### OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING 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 listed above.
- Do not cultivate within 10 feet of an aquatic area to allow growth of a vegetation filter strip.
- See Spray Drift Management section for further information.

### SPRAY DRIFT MANAGEMENT

Make ground application when wind velocity favors on-target product deposition (approximately 3 to 10 mph). 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.

Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or





high temperatures.

Do not make ground applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

#### **Spray Volume:**

For best results Torque™ Fungicide may be applied in 66-132 gallons of water per acre for turf using ground based equipment. For ornamentals, 50-300 gallons of finished spray per acre are recommended depending upon equipment, plant species and plant growth stage at time of application. For the most effective results, equipment calibration should be checked regularly. When using lower spray volumes, be sure to maintain uniform application and full crop coverage so as to ensure effective control. Increase spray volume to ensure proper application, if required.

#### **Compatibility Test for Mix Components:**

Before mixing components, always perform a compatibility jar test. For 66 gallons per acre spray volume, use 5 cups of water in a clear, clean mixing jar. For other spray volumes adjust accordingly. Only use water from the intended source at the source temperature. Add components in the sequence indicated below in Mixing Order using 3 teaspoons for each pound of dry product or 1 1/2 teaspoon for each pint of liquid product of recommended label rate per acre. Always cap the jar and invert 10 cycles between component additions. When the components have all been added to the jar and fully mixed, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent and use the compatibility agent as directed on its label.

#### **Mixing:**

Continuous agitation is required during mixing. When mixing this product and water, use the specified application rates as listed for each crop on this label. Before combining any other substances with the mixture, ensure that the Torque™ Fungicide is completely dispersed in the mixture.

#### **Recommended Mixing Procedure:**

1. Water. Add three-quarters of the required volume to a thoroughly clean sprayer tank.
2. Agitation. Start agitation and maintain constant agitation throughout mixing and application.
3. Inductor. If an inductor is used, rinse it thoroughly after each component has been added.
4. Products in PVA Bags. Place any product contained in water soluble PVA bags into the mixing tank. Wait until all water soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
5. Water Dispersible Products. Including dry flowables (DF), wettable powders (WP), suspension concentrates (SC) or suspo-emulsions (SE).
6. Water-soluble products.
7. Emulsifiable concentrates (such as oil concentrates when applicable).
8. Water soluble additives (such as AMS or UAN when applicable).
9. Remaining quantity of water.





### RESISTANCE MANAGEMENT INFORMATION

The active ingredient in Torque™ Fungicide is a member of the DMI (Demethylation Inhibitor) fungicide group (FRAC grouping 3) and can exhibit cross-resistance to products with the same mode of action when used repeatedly in the same location or in successive years as the primary method of control for targeted diseases. Because the speed and scope of resistant population development can not be predicted, the use of this product should conform to resistance management strategies established for the crop and use area. Such strategies may include the rotation and/or tank mixing with products utilizing different modes of action or limiting the number of applications per season. Contact your local university or extension specialist and/or manufacturer for fungicide resistance management recommendations.

## DISEASE CONTROL IN GOLF COURSE TURF

### TURF USE RESTRICTIONS AND PRECAUTIONS

For use on golf course turf only.

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (i.e., elementary, middle and high school), campgrounds, churches, and theme parks.

Not for homeowner use.

Not for use on turf being grown for sale or commercial use as sod.

Do not use clippings for animal feed.

Do not exceed 3.6 fl.oz. of Torque™ Fungicide per 1,000 sq ft per year.

Do not apply more than 6 applications per year.

Do not apply more than 3 applications per year in New York State.

### Product Information

For use on all Golf turf applications of cool season and warm season grasses (such as Bentgrasses, Bluegrasses, Fescues, Ryegrasses, St. Augustine grasses, and Zoysia) or their mixtures. Torque™ Fungicide is not phytotoxic to any of the above mentioned grasses when used in accordance with the label.

Note: Bermudagrass can be sensitive to Torque™ Fungicide under certain conditions. Do not apply consecutive applications during or just after dormancy break.

Note: For all grasses, avoid consecutive applications of Torque™ or other DMI containing fungicides when temperatures are expected to exceed 85 degrees F.

Torque™ Fungicide can be used for the prevention and control of the diseases mentioned in table below. Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Preventative treatments can be applied using 21 day intervals as indicated. When treating golf greens, always treat aprons and approaches. Spray uniformly over the area to be treated with properly calibrated equipment.

Apply the specified amount of Torque™ Fungicide in sufficient water for thorough coverage. A volume of 66 – 132 gallons per acre (1.5 – 3.0 gallons per 1,000 sq ft) is recommended. Apply using properly calibrated low volume, hand held, mechanical or motorized ground broadcast equipment. Application to small areas may be made with low pressure handwand or backpack equipment. Maintain constant agitation during application.

Depending on the disease, Torque™ Fungicide should be watered into the crown and active root zone for best results. Make all applications after mowing and allow foliage to dry thoroughly before irrigation. For best results use spray mixture the same day it is prepared.





### Golf Course Turf Disease Control

DISEASE	RATE of Torque™ Fungicide (fl oz/1000 Sq Ft)	NOTES and RESTRICTIONS
Dollar Spot <i>(Sclerotinia homoeocarpa)</i> Copper Spot <i>(Gloeocercospora sorghi)</i> Powdery Mildew <i>(Erysiphe graminis)</i> Corticium Red Thread <i>(Laetisaria fuciformis)</i> Rusts <i>(Puccinia spp.)</i> Red Thread <i>(Laetisaria fuciformis)</i> Pink Patch <i>(Limonomycetes rosipellis)</i>	0.6 - 1.1	For prevention, begin applications when conditions are favorable for disease development using the low to medium rate. For curative treatments, use the medium to high rate. Torque™ can be tank mixed with Legend™ or Spectro® at labeled rates. Do not make two consecutive applications of Torque™ Fungicide or other DMI containing fungicides. Alternate with another fungicide with a different mode of action. A second application may be made after 21 days.
Brown Ring Patch <i>(Waitea circinata)</i>	0.6 - 1.1	For prevention, begin applications when conditions are favorable for disease development. Make two applications using the low to medium rate tank mixed with Affirm® at labeled rates. Repeat application at 21 day interval.
Brown Patch/Rhizoctonia Blight, Large Patch <i>(Rhizoctonia solani)</i> Anthracnose -Basal and Foliar <i>(Colletotrichum cereale)</i>	0.6 - 1.1	For prevention, begin applications when conditions are favorable for disease development using the low to medium rate. For curative treatments, use the medium to high rate. Torque™ can be tank mixed with Legend™, Spectro®, 3336® or Affirm® at labeled rates. Do not make two consecutive applications of Torque™ Fungicide or other DMI containing fungicides. Alternate with another fungicide with a different mode of action. A second application may be made after 21 days.
Bermudagrass decline <i>(Gaeumannomyces graminisvar. graminis)</i>	0.6 - 1.1	For prevention, begin applications two or four weeks prior to the historical appearance of disease symptoms. Make two applications at the low to medium rate, 21 days apart or one application at the high rate. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and root zone of the turf. The amount of water is dependent on the depth of the root zone. Alternate with another fungicide with a different mode of action as needed. Initiate cultural control practices at the same time the fungicide is applied. Refer to your local County Extension Service for this information.





DISEASE	RATE of Torque™ Fungicide (fl oz/1000 Sq Ft)	NOTES and RESTRICTIONS
Take All Patch ( <i>Gaeumannomyces graminis</i> var. <i>graminis</i> )	0.6 - 1.1	For prevention, make two applications at low rate, 21 days apart or one application at high rate in the fall when root zone soil temperatures reach 75° F and again in the spring at 55-60° F root zone soil temperature. Applications in both fall and spring may be necessary. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone.
Gray Leaf Spot ( <i>Pyricularia grisea</i> )	0.6 - 1.1	For prevention, begin applications when conditions are favorable for disease development (July-Aug) using the low to medium rate. For curative treatments, use the medium to high rate and tank mix with Legend or Spectro at labeled rates. Do not make two consecutive applications of Torque™ Fungicide or other DMI containing fungicides. Alternate with another fungicide with a different mode of action, such as 3336. A second application may be made after 21 days.
Stripe Smut ( <i>Ustilago striiformis</i> )	0.6 - 1.1	Make a single application to historical disease areas in spring as grass growth begins. For curative treatments, use the medium to high rate.
Spring Dead Spot ( <i>Leptosphaeria korrea</i> , <i>L. narmari</i> , <i>Ophiosphaerella herpotricha</i> , <i>Gaeumannomyces graminis</i> ) Necrotic Ring Spot ( <i>Leptosphaeria korrea</i> )	0.6 - 1.1	For prevention, make two applications at the low to medium rate, 21 days apart or one application at the high rate in the fall when root zone soil temperatures reach 75° F. Torque™ can be combined with 3336 at labeled rates. A spring application may be necessary in areas where disease pressure is known to be heavy. Apply using low to medium rate when root zone soil temperature reaches 55-60° F. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone.





DISEASE	RATE of Torque™ Fungicide (fl oz/1000 Sq Ft)	NOTES and RESTRICTIONS
Fusarium Patch ( <i>Fusarium roseum</i> )	0.6 - 1.1	Apply first application in mid-June or 2-4 weeks prior to time this blight normally becomes evident. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone. Alternate with another fungicide with a different mode of action, such as 3336°. A second application may be made after 21 days.
Summer Patch ( <i>Magnaporthe poae</i> )	0.6 - 1.1	For prevention, Apply in the spring when root zone soil temperatures reach 55-60° F. Do not make two consecutive applications of Torque™ Fungicide or other DMI containing fungicides. Alternate with another fungicide with a different mode of action, such as 3336°. Make additional applications at 21 day intervals. See local university recommendations for additional information. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone.
Zoysia Patch, Large Patch of zoysia ( <i>Rhizoctonia solani</i> )	0.6 - 1.1	Make first application in early fall (mid-September to mid-October) prior to development of disease symptoms. Alternate with another fungicide with a different mode of action, such as Affirm®. Second and third applications may be made at 21day intervals. See local university recommendations for additional information. An additional application in early spring may be necessary in areas where disease pressure is known to be heavy.
Gray Snow Mold/ Typhula Blight ( <i>Typhula incarnate</i> )  Pink Snow Mold/ Microdochium Patch ( <i>Microdochium nivale</i> )	0.6 - 1.1	Apply in the fall, before anticipated turf dormancy and before first snow cover. If turf breaks dormancy during winter months a second application may be made. Do not apply over snow cover, or when turf is dormant. It is recommended that Torque™ Fungicide be tank-mixed with other registered snow mold products, such as 26/36°, 3336°, Affirm®, Spectro™ or Legend™, for best season long results.







DISEASE	RATE of Torque™ Fungicide (fl oz/1000 Sq Ft)	NOTES and RESTRICTIONS
Fairy Ring <i>Chlorophyllum (Lepiota),            Lycoperdon, Marasmius</i>	0.6 - 1.1	For prevention in cool season turf, make two applications at the low-medium rate in the spring when root zone soil temperatures reach 55-60° F. Make a second application using a 21 day interval. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone. Do not use a wetting agent unless hydrophobic soil conditions exist. For curative treatment, use the medium to high rate. For Warm season turf breaking dormancy. Do not make two consecutive applications of Torque™ Fungicide or other DMI containing fungicides. Alternate with another fungicide with a different mode of action, such as Affirm®, Heritage or Prostar. For hydrophobic areas, Use an appropriate wetting agent to effectively penetrate the hydrophobic zone commonly created with this disease.
<p><b>NOTE:</b> Apply the specified amount of Torque™ Fungicide in 1.0 to 3.0 gallons of water per 1000 sq. ft. Make all applications after mowing and allow foliage to dry thoroughly before irrigation. Do not use clippings for animal feed. Do not exceed 3.6 fl oz of Torque™ Fungicide per 1000 sq. ft. per year. Do not exceed 6 applications per year.</p>		

### DISEASE CONTROL IN FIELD, NURSERY AND CONTAINER ORNAMENTALS AND COMMERCIAL and RESIDENTIAL LANDSCAPES

#### ORNAMENTAL USE RESTRICTIONS AND PRECAUTIONS

For use on ornamental plants only; not for woodlands or forest management.

Not for homeowner use.

Do not apply more than 30 fl. oz. per acre is a single application.

Do not apply more than 0.31 gallons (40 fl. oz.) of Torque™ (equal to 1.113 lbs. of Tebuconazole) per acre per year.

Do not make more than 4 applications per year at highest rate.

Do not apply to bearing fruit trees or vegetables

#### General Information

Torque™ Fungicide can be used in a preventative and curative disease control program for the listed plant types and disease in the table below. Optimum disease management is obtained when Torque™ Fungicide is used in conjunction with sound disease management practices.

Apply material with properly calibrated hand held, mechanical or motorized spray equipment. Begin applications when disease first appears and repeat at 14-21 day intervals during the growing season. Use the shortest interval when conditions are unusually favorable for the development of disease. For hand held, mechanical, or motorized applications, mix as directed below and apply as a full coverage spray to drip for the prevention and control of the diseases listed below. Choose a finished spray volume appropriate for the size of the plants and amount of foliage, which will provide thorough coverage throughout the canopy. Allow sprays to dry before overhead irrigation is applied.





Apply Torque™ Fungicide at rates of 4-10 fl oz per acre in 100 gallons of water. Spray volume may range from 50 up to 300 gallons of finished spray per acre depending upon equipment, plant species and plant growth stage at time of application.

**Note:** The "Directions for Use" of this product reflect the cumulative inputs from both historical field use and product testing programs. However, it is impossible to test this product on all species and cultivars. A preliminary trial is suggested on a small scale before a full treatment is applied to any plant type not shown on this label but found in a similar use site with a listed disease problem. Wait 5-7 days after treatment to evaluate results. This product is not recommended for use on African Violets, Begonias, Boston Fern, and Geraniums.

### Ornamentals Disease Control

PLANTS	DISEASE	APPLICATION	
		To Prevent Diseases	To Treat Existing Disease
Roses	Black Spot Powdery Mildew Rust	Apply every 14-21 days during the growing season, starting when leaves first appear.	Apply every 14 days for a total of 3 applications beginning at the first sign of disease.
Flowers	Leaf Spot Powdery Mildew Rust Southern Blight	Apply at least 3 times per year, 14-21 days apart, beginning with Spring bud break. Rotation or Tank mixing with barrier protectant fungicides is recommended for resistance management.	
Crabapples (Ornamental), Dogwoods and Other Landscape (Ornamental) Trees	Anthracnose Leaf Spot Powdery Mildew Rust Scab		
Azaleas, Camellias, Rhododendrons and Other Landscape (Ornamental) Shrubs	Anthracnose Black Spot Leaf Spot Petal Blight Powdery Mildew Rust	Petal Blight – Apply 2 – 3 times per week into the flowers as they open and develop color.	
Ground Covers and Vines	Southern Blight		

**HOW MUCH TO USE FOR SMALL PLANTINGS: ADD 1 TEASPOON TO 2.5 GALLONS OF WATER.**

#### Pump Style Sprayers

1. Add the appropriate amounts of concentrate and water to the sprayer tank.
2. Close the sprayer, shake well and pressurize.
3. Adjust nozzle to a coarse spray pattern and apply.
4. Occasionally re-pressurize the sprayer if needed to maintain a good spray pattern.





## STORAGE AND DISPOSAL

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

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

Handle and open container in a manner as to prevent spillage. If container is leaking, invert to prevent leakage. If the container is leaking or material is applied for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away. You may contact CHEMTREC for decontamination procedures or any other assistance that may be necessary. The number is 1-800-424-9300.

**Pesticide Disposal:** Pesticide spray mixture or rinsate that can not be used or chemically reprocessed should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes can not be disposed of by the 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 Disposal: Non refillable container.** Do not use 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 for later use or disposal. Drain for 10 seconds after 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 drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and collect the 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. Offer for recycling, if available. If not recycled, then puncture and dispose of in a sanitary landfill or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

## CONDITIONS OF SALE AND LIMITED WARRANTY:

The Directions for Use are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of CLEARY CHEMICAL LLC. or the SELLER. To the extent consistent with applicable law, all such risks shall be assumed by the buyer.

CLEARY CHEMICAL LLC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the inherent risks referred to above.

CLEARY CHEMICAL LLC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, CLEARY CHEMICAL LLC. AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

CLEARY CHEMICAL LLC. and the SELLER offer this product, and the Buyer and User accept it, subject to the foregoing Conditions of Sale and Warranty which may be varied only by agreement in writing signed by a duly authorized representative of CLEARY CHEMICAL LLC.

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# Cleary™ MATERIAL SAFETY DATA SHEET

TORQUE™ Fungicide

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Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TORQUE™ Fungicide  
**EPA REGISTRATION NUMBER(S):** 1001-87  
**SYNONYM(S):** Tebuconazole, Folicur

**COMPANY**  
 Cleary Chemicals LLC  
 178 Ridge Road, Suite A  
 Dayton, NJ 08810  
 1-800-524-1662

**EMERGENCY TELEPHONE NUMBERS**  
**HEALTH EMERGENCY:** **SPILL EMERGENCY:**  
 1-800-222-1222 1-800-424-9300  
 Poison Control Center CHEMTREC

## SECTION 2: CONFIRMATION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	% by Weight	OSHA PEL	ACGIH TWA	NIOSH REL
Tebuconazole	107534-96-3	38.7	NE	NE	
Glycerine	56-81-5	10.0	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	NE
Surfactant blend		10.0			

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

\*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

**\*TWA:** Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10- hour (REL) workday and a 40-hour workweek.

**\*OSHA PEL:** Occupational Safety and Health Administration Permissible Exposure Limits.

**\*ACGIH TLV:** American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

**\*NIOSH REL:** National Institute for Occupational Safety and Health Recommended Exposure Limits.

**EMERGENCY TELEPHONE #: Chemtrec 800-424-9300**

MSDS Number: 4145-001 Issue Date: 03.04.10

NDA = No Data Available NA = Not Applicable



### SECTION 3: HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

<b>CAUTION:</b>	<ul style="list-style-type: none"> <li>- Harmful if swallowed, inhaled or absorbed through the skin.</li> <li>- Avoid contact with Skin, eyes and clothing</li> <li>- Avoid inhalation of vapor or spray mist</li> <li>- KEEP OUT OF REACH OF CHILDREN</li> </ul>
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#### Acute Health Hazards

**Eye:** May cause mild eye irritation. The degree of the irritation/injury will depend upon the amount and duration of exposure. Avoid contact with eyes.

**Skin:** May cause skin irritation. Harmful if absorbed through skin. Avoid contact with skin and clothing. Wash thoroughly with soap and water after handling.

**Ingestion:** Harmful if swallowed. Do not take internally.

**Inhalation:** Harmful if inhaled. Avoid inhalation of vapor or mist.

**Chronic Health Hazards (Including Cancer):** This product or its components may have target organ effects.

**Teratology (Birth Defects) Information:** No evidence of carcinogenicity or other treatment related effects was observed in animal testing.

**Mutagenicity:** No evidence of mutagenicity was observed during animal testing.

**Reproductive and Developmental:** No evidence of reproductive or developmental toxicity was observed during animal testing.

**Environmental:** Toxic to fish, aquatic invertebrates and marine/estuarine organisms. Toxic to birds.

### SECTION 4: FIRST AID MEASURES

**Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin:** 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.

**Ingestion:** Call a physician or poison control center immediately. Rinse out mouth 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. Do not leave victim unattended.

**Inhalation:** Move person to fresh air. If person is not breathing, call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

**Notes to Physician:** There is no specific antidote. Appropriate supportive and symptomatic treatment is recommended based on patient's condition.

**EMERGENCY TELEPHONE #: Chemtrec 800-424-9300**

MSDS Number: 4145-001 Issue Date: 03.04.10

NDA = No Data Available NA = Not Applicable



**SECTION 5: FIRE FIGHTING MEASURES**

<b>Flammable Limits in Air (% by volume):</b>	
Upper:	NDA
Lower:	NDA
Flash Point:	> 93.4 C / 200 F
Method Used:	NA
Auto-ignition Temperature:	405 C / 761 F
LEL/UEL:	NDA
<b>NFPA 704 Hazard Classification:</b>	
Health:	1
Flammability:	1
Reactivity:	1
Other:	None
Extinguishing Media:	Water, Dry chemical, Foam, Carbon Dioxide (CO <sub>2</sub> )
Special Fire Fighting Procedures:	NIOSH approved SCUBA and full protective clothing recommended. Keep out of smoke. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Unusual Fire/Explosion Hazards:	NA
Hazardous Combustion Products:	Nitrogen oxides, Carbon Monoxide, Hydrogen cyanide, Hydrogen chloride

**SECTION 6: ACCIDENTAL RELEASE MEASURES****EMERGENCY PHONE NUMBERS**

Spill Calls (CHEMTREC): 1-800-424-9300

**Personal Precautions:** Use personal protective equipment. Avoid contact with spilled product or contaminated surfaces. Keep unauthorized people away. Remove all sources of ignition. Do not allow spill to enter soil, waterways or waste water systems.

**Clean up Procedures:** Soak up with inert absorbent material. Collect and transfer the product into properly labeled and closed containers for reclamation or disposal. Clean contaminated site completely observing applicable environmental regulations. Contaminated soil may have to be removed and disposed.

**SECTION 7: HANDLING AND STORAGE**

**Handling:** Handle and open container with care to prevent exposure or spillage. Avoid eye and skin contact with this material. Use with adequate ventilation. Keep container closed or equipped with a local air exhauster. Handle the container carefully. Do not drop or drag the container. Avoid impacts to the container.

**Storage:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, or feed. Store in original container and keep out of reach of children.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Eye Protection:** Wear suitable eye protection.

**Respiratory/Ventilation Requirements:** Control exposure levels through the use of general and local exhaust ventilation. Avoid breathing vapor or spray mist

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**Skin Protection:** Wear appropriate protective clothing (long sleeved shirt and long pants) and chemical resistant gloves from Category C to prevent skin contact. Wash hands thoroughly with soap and water after handling and before other activities. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance and Physical State:</b>	White, liquid suspension
<b>Odor:</b>	Chalk like odor
<b>pH:</b>	7.5
<b>Boiling Point:</b>	NA
<b>Melting Point:</b>	102.4°C
<b>Freezing Point:</b>	32° F
<b>Vapor Pressure:</b>	0.013mPa (20 C)
<b>Vapor Density:</b>	NA
<b>Specific Gravity:</b>	1.12 @ 20C
<b>Evaporation Rate:</b>	NA
<b>Solubility (active ingredient):</b>	<b>g/L @ 20C</b>
	<b>Water:</b> .032
	<b>Hexane:</b> 0.1
	<b>Toluene:</b> 50-100
	<b>2-propanol:</b> 100-200
<b>Octanol/Water Partition Coefficient:</b>	Log Pow = 3.7 @ 20C
<b>Percent Solids by Weight:</b>	38.7
<b>Percent Volatile:</b>	NA
<b>Volatile Organic Compounds:</b>	NA
<b>Molecular Weight:</b>	NDA
<b>Viscosity:</b>	800-1200 Cps

## SECTION 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal use and storage conditions. Avoid freezing and prolonged exposure to direct sunlight.
<b>Hazardous Polymerization:</b>	Stable under normal conditions
<b>Flash Point:</b>	NDA
<b>Flammable Point:</b>	> 93.4 C / 200 F
<b>Auto Ignition:</b>	405 C / 761 F
<b>Incompatibility With Other Materials:</b>	NDA
<b>Hazardous Decomposition Products:</b>	Thermal decomposition can lead to release of Nitrogen oxides, Carbon monoxide, Hydrogen cyanide, or Hydrogen chloride.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Acute:

- Eye Irritation:** minimally irritating (rabbits)
- Skin Irritation:** slight irritation (rabbits)
- Skin Sensitization:** Non-sensitizing (guinea pigs)
- Dermal Toxicity:** LD<sub>50</sub> (male/female rats) >2,000 mg/kg

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<b>Oral Toxicity:</b>	LD <sub>50</sub> (male rat) = 3,776 mg/kg LD <sub>50</sub> (female rat) = 3,710 mg/kg
<b>Inhalation Toxicity:</b>	LC <sub>50</sub> (4 hrs) (male/female rats) = 2.5 mg/L air

**Chronic Toxicity:** Tebuconazole caused liver, spleen, adrenal and/or eye effects at high doses in rats and dogs.

**Carcinogenicity:** No significant carcinogenic risk is posed for human exposure. Tebuconazole is classified by EPA as a Group C (possible human carcinogen) based on selected animal studies. Liver tumors in mice were seen only at a dose exceeding a Maximum Tolerated Dose (MTD). Not listed by ACGIH, NTP, IARC, or OSHA.

**Reproductive Toxicity:** Not considered a primary reproductive toxicant in rats. Reproductive effects were observed at the highest concentration but were considered secondary to maternal toxicity.

**Developmental Toxicity:** Not considered a primary developmental toxicant in lab animals. Developmental effects were observed only at doses that caused maternal toxicity.

**Neurotoxicity:** Tebuconazole caused only transient neurobehavioral effects in acute, subchronic and/or developmental neurotoxicity studies in rats.

**Mutagenicity:** Negative

## SECTION 12: ECOLOGICAL INFORMATION

**Environmental Fate and Distribution:** Koc = 803-1251 with all detections found in upper 10cm of soil profile. Not predicted to be a threat to groundwater. Moderate biodegradation with soil half life of 51-128 days. Stable in water (pH 5-9)

**Aquatic Organism Toxicity (based on technical material):**

Rainbow trout LC<sub>50</sub> (96-hrs) = 4.4 ppm

Bluegill LC<sub>50</sub> (96-hrs) = 5.7 ppm

Opossum Shrimp LC<sub>50</sub> (96-hrs) = 0.49 ppm

**Avian Toxicity (based on technical material):**

Mallard duck-dietary LC<sub>50</sub> >4816 ppm

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** End users must dispose of any unused product as per the label recommendations and in accordance with all applicable laws and regulations. Check governmental regulations and local authorities for approved disposal of this material. Preferred method of disposal is by incineration.

## SECTION 14: TRANSPORT INFORMATION

<b>D.O.T. Shipping Name:</b>	Insecticides or Fungicides, N.O.I.; other than poison
<b>Technical Shipping Name:</b>	NA
<b>Packing Group:</b>	NA
<b>D.O.T. Hazard Class:</b>	Not regulated for domestic surface shipments
<b>U.N./N.A. Number:</b>	UN3082
<b>Product RQ (lbs):</b>	NA
<b>D.O.T. Label:</b>	NA
<b>D.O.T. Placard:</b>	NA

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TORQUE™ Fungicide

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Marine Pollutant:	Yes
IMO :	
IMO Label:	UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Tebuconazole) 9, PG III, Marine Pollutant
IMO Placard:	9, Marine Pollutant
IMDG Code:	UN3082

## SECTION 15: REGULATORY INFORMATION

### U.S Federal Regulations

FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act): All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**CERCLA (Comprehensive Response Compensation, and Liability Act):** None

**EPCRA (Emergence Planning and Community Right-to-Know Act):** None

**RCRA (Resource Conservation and Recovery Act):** None

**SARA Title III (SUPERFUND Amendments and Reauthorization Act):**

Section 302 (EHS) TPQ: NONE

Section 304 (EHS) RQ: NONE

Section 313 Toxic Chemical Release Reporting: NONE

**TSCA (Toxic Substance Control Act):** Glycerine CAS # 56-81-5

**State Regulations:** Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

**CA PROP 65:** This product does not contain any substances known to the State of California to cause cancer or reproductive harm.

## SECTION 16: OTHER INFORMATION

Reason for issue:	New MSDS (New EPA Registration Number)
Prepared by:	Richard F. Fletcher
Approval date:	01.08.10
Supersedes date:	NA
MSDS number:	4145-001

The information in this MSDS is based on data available to us as of the revision data given herein, and believed to be correct. Judgments as to the suitability of information herein for the individual's own uses or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Cleary Chemicals LLC extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

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# TORQUE™ FUNGICIDE

For control of listed diseases on ornamentals and golf courses.

GROUP **3** FUNGICIDE

## ACTIVE INGREDIENT:

Tebuconazole;  $\alpha$ -[2-(4-chlorophenyl)ethyl]- $\alpha$ -(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol . . . . 38.7%

**OTHER INGREDIENTS.** . . . . 61.3%

**TOTAL** . . . . .100.0%

Contains 3.6 pounds Tebuconazole per gallon

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</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 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 eye.</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>

**Note to Physician:** No specific antidote. Treat symptomatically. The compound does not cause any definite symptoms that would be diagnostic. Contact with the eyes may cause irritation.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Emergency Medical Assistance, call the National Pesticide Information Center 1-800-858-7378.

For chemical emergency: spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300. For product use information call Cleary Technical Support 1-800-524-1662

EPA Reg. No. 1001-87

Manufactured for:  
CLEARY CHEMICALS, LLC  
178 Ridge Rd, Suite A  
Dayton, NJ 08810-1501

 Cleary™

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**NET CONTENTS:**  
1 Gallon

