



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

<u>COMPANY</u>
Cleary Chemicals LLC 178 Ridge Road, Suite A Dayton, NJ 08810 1-800-524-1662

<u>EMERGENCY TELEPHONE NUMBERS</u>	
HEALTH EMERGENCY: 1-800-222-1222 Poison Control Center	SPILL EMERGENCY: 1-800-424-9300 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 ³	10 mg/m ³	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

^a**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.

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

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

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

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

CAUTION:

- Harmful if swallowed, inhaled or absorbed through the skin.
- Avoid contact with Skin, eyes and clothing
- Avoid inhalation of vapor or spray mist
- KEEP OUT OF REACH OF CHILDREN

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. 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.

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.

SECTION 5: FIRE FIGHTING MEASURES

Flammable Limits in Air (% by volume):		
	Upper:	NDA
	Lower:	NDA
Flash Point:		> 93.4 C / 200 F
	Method Used:	NA
Auto-ignition Temperature:		405 C / 761 F
LEL/UEL:		NDA
NFPA 704 Hazard Classification:		
	Health:	1
	Flammability:	1
	Reactivity:	1
	Other:	None
Extinguishing Media:		Water, Dry chemical, Foam, Carbon Dioxide (CO ₂)
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

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

Appearance and Physical State:	White, liquid suspension
Odor:	Chalk like odor
pH:	7.5
Boiling Point:	216° F/ 102° C
Melting Point:	NA
Freezing Point:	32° F/ 0° C
Vapor Pressure:	0.013mPa (20 C)
Vapor Density:	NA
Specific Gravity:	1.12 @ 20C
Evaporation Rate:	NA
Solubility (active ingredient):	g/L @ 20C
Water:	.032
Hexane:	0.1
Toluene:	50-100
2-propanol:	100-200
Octanol/Water Partition Coefficient:	Log Pow = 3.7 @ 20C
Percent Solids by Weight:	38.7
Percent Volatile:	NA
Volatile Organic Compounds:	NA
Molecular Weight:	NDA
Viscosity:	800-1200 Cps

SECTION 10: STABILITY AND REACTIVITY

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

SECTION 11: TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical grade active ingredient (Tebuconazole).

Acute:

Eye Irritation: minimally irritating (rabbits)

Skin Irritation: slight irritation (rabbits)

Skin Sensitization: Non-sensitizing (guinea pigs)

Dermal Toxicity: LD₅₀ (male/female rats) >2,000 mg/kg

Oral Toxicity: LD₅₀ (male rat) = 3,776 mg/kg
LD₅₀ (female rat) = 3,710 mg/kg

Inhalation Toxicity: LC₅₀ (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 (e.g. smaller litters) 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 LC₅₀ (96-hrs) = 4.4 ppm

Bluegill LC₅₀ (96-hrs) = 5.7 ppm

Opossum Shrimp LC₅₀ (96-hrs) = 0.49 ppm

Avian Toxicity (based on technical material):

Mallard duck-dietary LC₅₀ >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

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

D.O.T. Label:	NA
D.O.T. Placard:	NA
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:	01/18/10
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.