



# Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE	

Issued Date 22-Jun-2007

Revision Date 04-Mar-2009

Revision Number: 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

### UPI

630 Freedom Business Center  
Suite 402  
King of Prussia, PA 19406

### Emergency Telephone Number

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 673-6671 (24hrs)

### Company Information

UPI

### Contact Information

Customer Service  
R&D Technical Service

### Phone Number

1-800-438-6071  
610-878-6100

### Available Hrs

8:00 am to 5:00 pm EST  
8:00 am - 5:00 pm (EST)

### Product Name

### EPA Reg #

### Recommended Use

### Product Code

Tebuzol® 45 DF Fungicide  
70506-113  
fungicide  
12U-130A

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

May cause eye and skin irritation  
May cause irritation of respiratory tract

### CAUTION

**Appearance** off-white.

**Physical State** Free flowing granules.

**Odor** No characterisitic odor.

### Potential Health Effects

#### Acute Effects

This material may cause irritation to eyes, skin and respiratory tract. The material is identified as a low hazard to birds, earthworms, and bees.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients Name**

Chemical Name	CAS-No	Weight %	OSHA PEL
Tebuconazole tech	107534-96-3	45	N/A

**4. FIRST AID MEASURES****Eye Contact**

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

**Skin Contact**

Take off contaminated clothing.  
Rinse skin immediately with plenty of water for 15-20 minutes.  
Call poison control center or doctor for treatment advice.

**Inhalation**

Move person to fresh air.  
If person is not breathing, call 911 or an ambulance, then give artificial respiration.  
Call a poison control center or doctor for further treatment advice.

**Ingestion**

Call a physician or Poison Control Center immediately  
Never give anything by mouth to an unconscious person  
Do not induce vomiting unless told to do so by a poison control center or doctor

**Notes to Physician**

No information available

**5. FIRE-FIGHTING MEASURES****Flammable Explosive Properties****Flash Point**

Not available

**Autoignition Temperature**

Not available

**Flammability Limits in Air**

Not available

**Extinguishing Media**

Water spray Foam Dry chemical Carbon dioxide (CO<sub>2</sub>)

**Fire/Explosion Hazard**

Toxic vapors may be released in the event of fire.

**Hazardous Combustion Products**

Carbon monoxide, Oxides of nitrogen.

**NFPA**

Health 1

Flammability 0

Instability 0

**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Avoid contact with the skin and the eyes. Use personal protective equipment.

<b>Environmental Precautions</b>	Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits..
<b>Methods for Clean-up</b>	Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Do not eat, drink or smoke when using this product. Keep out of reach of children. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. .
<b>Storage</b>	Keep out of the reach of children. Keep in a dry, cool and well-ventilated place. Keep away from direct sunlight.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Controls</b>	Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. .
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	Where there is potential for eye contact have eye flushing equipment available.. Use eye protection to avoid eye contact. .
<b>Skin Protection</b>	Wear protective gloves/clothing.
<b>Respiratory Protection</b>	Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134. .

### General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	off-white	<b>Odor</b>	No characterisitic odor
<b>Physical State</b>	Free flowing granules	<b>pH</b>	approx.7
<b>Boiling Point/Range</b>	Not available	<b>Melting Point/Range</b>	Not available
<b>Specific Gravity</b>	Not available	<b>Solubility</b>	Dispersible in water
<b>Evaporation Rate</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density</b>	Not available	<b>VOC Content</b>	Not available
<b>Viscosity</b>	Not available	<b>Molecular Weight</b>	No data available
<b>Bulk Density</b>	0.45-0.6 g/cm3	<b>Percent Solids</b>	Not available
<b>Percent Volatiles</b>	Not available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions
<b>Conditions to Avoid</b>	Excessive heat and open flame. Avoid creating dusty conditions.
<b>Incompatible Materials</b>	oxidizers.
<b>Hazardous Decomposition Products</b>	Carbon monoxide. Nitrogen oxides (NOx).
<b>Possibility of Hazardous Polymerization</b>	Hazardous polymerisation does not occur

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### **Product Information**

Tebuzol 45 DF:  
Acute oral LD50 (rat) = >2,000 mg/kg  
Acute dermal LD 50 (rat) = >2,000 mg/kg  
Acute inhalation LC50 (rat) = >2.010 mg/l , 4hr  
Skin irritation = Not an irritant  
Eye irritation (rabbit) = Mildly irritating to the eyes  
Skin sensitization (Guinea pig) = Not a sensitizer

### Chronic Toxicity

## Carcinogenicity

Tebuconazole (active ingredient):

Subchronic toxicity=

In dermal studies with rabbits the NOEL was 1000 mg/kg.

A three-week inhalation study with rats the NOEL was 10.6 mg/m<sup>3</sup>.

Chronic toxicity=

In chronic dog studies, tebuconazole was administered for 52 weeks at dietary concentrations of 40, 100, 150, 200, or 1000 ppm.

Due to lack of significant effects, the high dose was increased to 2,000 ppm at 40 weeks for the remainder of the study. At the high dose, effects relating to liver, spleen, ocular and adrenal were observed. The overall NOEL from these studies was 100 ppm based on adrenal effects. In a 2-year study, tebuconazole was administered to rats at dietary concentrations of 100, 300 or 1,000 ppm. There was a reduction in body weight gains and an increased incidence of liver and spleen effects at the high dose. The NOEL was 300 ppm.

Carcinogenicity:

There was no indication of a carcinogenic effect in rats or mice when tested at dose levels up to and including the maximum tolerated dose (MTD) for each species. An increased incidence of hepatocellular neoplasms occurred in mice at dose level approximately three fold greater than the MTD.

Mutagenicity:

In vitro and in vivo mutagenicity studies conducted on tebuconazole have been negative.

Developmental toxicity:

In mice treated at dose levels ranging from 1-1,000 mg/kg, the NOELs for maternal and developmental toxicity were 3 and 10 mg/kg respectively. In rats treated at dose levels of 30, 60, or 120 mg/kg, the NOELs for maternal and developmental toxicity were 30 and 60 mg/kg respectively. For rabbits, the NOELs for maternal and developmental toxicity were less than 10 and 30 mg/kg respectively.

In dermal teratology studies on rats and mice, tebuconazole was administered during gestation at dose levels of 100, 300 or 1,000 mg/kg. In rats, there was no indication of maternal and developmental toxicity were 100 and 300 mg/kg respectively.

Reproduction:

In a reproduction study in rats, smaller litter sizes and decreased pup weight gain was observed in conjunction with maternal toxicity at the high concentration. The maternal and reproductive NOEL was 300 ppm.

Neurotoxicity:

In an acute neurotoxicity screening study, tebuconazole was administered to rats as a single oral dose at doses of 100, 500 or 1000 mg/kg for males and 100, 250, or 500 mg/kg for females. Treatment related clinical signs of toxicity and transient neurobehavioral effects were evident in both sexes. There were no treatment related microscopic lesions within the skeletal muscle or neural tissues. Based on these results the NOEL for neuropathology was 1000 mg/kg for males and 500 mg/kg for females, the highest dose tested. The overall NOEL was less than 100 mg/kg for both sexes. In a 13 week neurotoxicity screening study in rats, body weight and food consumption was reduced at the high dose, functional observational battery (FOB) and automated measures of motor and locomotor activity were not affected by treatment, there were no treatment related microscopic lesions in neural tissues or skeletal muscle in any of the treated animals, and there was no evidence of neurotoxicity at any dietary concentration. The NOEL for overall toxicity was 400 ppm. In one generation developmental neurotoxicity study, tebuconazole was administered to rats during gestation and postnatal development. Maternal toxicity observed included decreased body weight and feed consumption, mortality, prolonged gestation, and alopecia. Effects observed in the offspring included mortality, developmental delay, and decrease in number of liveborn, viability index, body weight gain, absolute brain weight and cerebellar thickness. Tebuconazole did not cause

any specific neurobehavioral effects in the offspring. The NOEL for both maternal and FI offspring toxicity was 300 ppm.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

For active ingredient:

. Tebuconazole has a low hazard to birds, earthworms, and bees. It is moderately toxic to fish and aquatic organisms.

Fish toxicity:

LC50 (96 hr) Bluegill sunfish = 5.7 mg/L

LC50 (96 hr) Trout = 4.4 mg/L

This material is moderately toxic to daphnia (93% after 30 days) and freshwater fish (96 hr LC50 4.4-5.7 m/l).

Bird toxicity:

Acute oral LD50 bobwhite quail = 1988 mg/kg

Acute oral LD50 male Japanese quail = 4438 mg/kg

Acute oral LD50 female Japanese quail = 2912 mg/kg

Bacteria toxicity

EC50 activated sludge micro-organism >10,000 mg/L

Environmental Fate:

The photolysis/metabolism half-life of Tebuconazole is 2-3 months in natural water. It is strongly bound to soil and has low mobility.

Bioconcentration factor (BCF) = 78.

## 13. DISPOSAL CONSIDERATIONS

### **Waste Disposal Method**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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. .

### **Contaminated Packaging**

Empty containers should be taken for local recycling, recovery or waste disposal

## 14. TRANSPORT INFORMATION

DOT Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Tebuconazole tech

## 12U-130A - Tebuzol® 45 DF Fungicide

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Tebuconazole tech

<b>EINECS/ELINCS</b>	Listed
<b>ENCS</b>	Listed
<b>CHINA</b>	Listed
<b>KECL</b>	Listed

### USA

### Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

#### **SARA 311/312 Hazardous Categorization**

<b>Chronic Health Hazard</b>	No
<b>Acute Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

### Clean Water Act

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain any HAPs.

### CERCLA

### RCRA

### Pesticide Information

### State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **State Right-to-Know**

### International Regulations

**Mexico - Grade** Not available

### **Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

#### **WHMIS Hazard Class**

Not determined

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## 16. OTHER INFORMATION

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Revision Date

04-Mar-2009

**Revision Summary**

Update section 9 Update section 6

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**End of MSDS**