Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE
	 

Issued Date 22-Jun-2007 **Revision Date** 06-Jan-2011 **Revision Number:** 4

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	Contact Information	Phone Number	Available Hrs
UPI	Customer Service	1-800-438-6071	8:00 am to 5:00 pm EST
	R&D Technical Service	610-878-6100	8:00 am - 5:00 pm (EST)

Product Name Tebuzol® 45 DF Fungicide
EPA Reg # 70506-113
Recommended Use fungicide
Product Code 12U-130A

2. HAZARDS IDENTIFICATION

Emergency Overview

May cause eye and skin irritation
May cause irritation of respiratory tract
Causes substantial eye irritation which will cause discomfort and is expected to be temporary.
Harmful by inhalation, in contact with skin and if swallowed

WARNING!

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 artifical 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

Extnguishing Media Water spray Foam Dry chemical Carbon dioxide (CO2)

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.

Environmental Precautions	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 pertinenet environmental permits..
Methods for Clean-up	Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling	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. .
Storage	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

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Controls	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. . PESTICIDE APPLICATORS & WORKERS. THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170..

Personal Protective Equipment

Eye/face Protection	Where there is potential for eye contact have eye flushing equipment available.. Use eye protection to avoid eye contact. .
Skin Protection	Wear protective gloves/clothing. Socks and footwear.
Respiratory Protection	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

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

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Conditions to Avoid	Excessive heat and open flame. Avoid creating dusty conditions.
Incompatible Materials	oxidizers.
Hazardous Decomposition Products	Carbon monoxide. Nitrogen oxides (NOx).
Possibility of Hazardous Polymerization	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^3.

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 heptaocellular 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 dise 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. Base don these results the NOEL for neuropathology was 1000 mg/kg for males and 500 mg/kg for females, the hgihest 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 skelatal 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 inlcuded 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.
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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

Non refillable container. Do not reuse this container. . Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. .

14. TRANSPORT INFORMATION

DOT Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Tebuconazole tech

EINECS/ELINCS	Listed 31 Mar 2012
ENCS	Listed
CHINA	Listed
KECL	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

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	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

16. OTHER INFORMATION

Revision Date 06-Jan-2011

Revision Summary
Update section 2

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End of MSDS