

MATERIAL SAFETY DATA SHEET

Tebu 45DF

MSDS DATE: 10/27/2011

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Tebu 45DF
SYNONYMS:
EPA REGISTRATION NO.: 83529-29

MANUFACTURER: Sharda USA LLC
ADDRESS: 7217 Lancaster Pike, Suite A
Hockessin, DE 19707

PHONE: (302) 635-7289
FAX: (302) 635-7295
EMAIL: shardain@vsnl.com
WEBSITE: www.shardaintl.com

EMERGENCY PHONE: 1(800) 222-1222
CHEMTREC PHONE: 1(800) 424-9300

CHEMICAL NAME: Tebuconazole
alpha-(2-(4-Chlorophenyl)ethyl)-alpha-(1-(1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol
CHEMICAL FAMILY: Triazole

CHEMICAL FORMULA: C₁₆H₂₂ClN₃O
PRODUCT USE: Fungicide
PREPARED BY: Sharda USA LLC

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

ACTIVE INGREDIENT: Tebuconazole

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>	<u>OSHA PEL</u>
107534-96-3	45.0	45.0	no	N/A

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING. Causes substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through the skin. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing dust or spray mist.

ROUTES OF ENTRY: Ingestion, inhalation, eye contact, and dermal absorption.

POTENTIAL HEALTH EFFECTS

Acute Effects of Exposure: Based on EPA Toxicity Category criteria, this product is mildly toxic by the oral and dermal routes of exposure. In addition, animal studies have shown that this product is a mild eye irritant, a slight skin irritant, and a negative dermal sensitizer.

Chronic Effects of Exposure: Based on animal toxicity studies with the active ingredient tebuconazole, there may be toxic effects on the following organs: spleen, liver, adrenals, and lens of the eye.

CARCINOGENICITY – Tebuconazole is classified by EPA as a Group C carcinogen (possible human carcinogen) based on liver tumors in mice and no evidence of carcinogenicity in rats. As the liver tumors were seen only at a dose exceeding a Maximum Tolerated Dose (MTD), no significant carcinogenic risk is posed for human exposure.

MATERIAL SAFETY DATA SHEET

Tebu 45DF

MSDS DATE: 10/27/2011

SECTION 4: FIRST AID MEASURES

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • 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.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • 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.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
<p>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.</p>	
<p>Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time (NPIC Web site: www.npic.orst.edu). For 24-hour medical emergency assistance (human or animal) call 1-800-222-1222. For chemical emergency assistance (spill, leak, fire, or accident) call CHEMTREC at 1-800-424-9300.</p>	

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY LIMITS IN AIR:	Not available
FLASH POINT:	Not available
AUTOIGNITION TEMPERATURE:	Not available
EXTINGUISHING MEDIA:	Foam, dry chemical, carbon dioxide, water
SPECIAL FIRE FIGHTING PROCEDURES:	Keep out of smoke. Fight fire from upwind position. Evacuate personnel to safe area. Cool closed containers/tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
UNUSUAL FIRE/EXPLOSION HAZARDS:	Dust Explosion Hazard: Specific testing with tebuconazole is not complete. Tests indicate low ignition energy for dust cloud meaning that explosive mixture can develop. Measures should be taken to eliminate buildup of static charge during routine material handling. All equipment should be grounded and material stored in containers lined with conductive plastic bags. If large dust cloud develops turn off all devices that may cause spark and leave area until cloud dissipates.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Isolate area and keep unauthorized people away. Do not walk through spilled material. Avoid breathing dust and skin contact. Avoid generating dust (a fine water spray mist, plastic film cover, or floor sweeping compound may be used if necessary). Use recommended protective equipment while carefully sweeping up spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers, or other waterways.

SECTION 7: HANDLING AND STORAGE

HANDLING: 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. Remove PPE immediately after handling product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

MATERIAL SAFETY DATA SHEET

Tebu 45DF

MSDS DATE: 10/27/2011

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 the container is leaking or material is spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material.

SECTION 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: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in WPS.

EYE PROTECTION: Safety glasses with side-shields.

INGESTION: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

SKIN PROTECTION: Wear long-sleeved shirt and long pants; Chemical resistant footwear made of any waterproof material; and shoes plus socks. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

INHALATION: Maintain exposure levels below exposure limits through the use of general and local exhaust ventilation.

ADDITIONAL PROTECTIVE MEASURES: Clean water should be available for washing in case of eye or skin contamination. Educate and train employees in safe use of the product. Follow all label instructions. Launder clothes after use. Wash thoroughly after handling.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Dull light brown	MELTING POINT:	102 – 105°C
ODOR:	Mild	SOLUBILITY:	Dispersible in water
PHYSICAL STATE:	Solid, Granular	VAPOR PRESSURE:	9.8 x 10 ⁻⁹ mm Hg @ 20°C
pH AS SUPPLIED:	9.04	Density:	0.615 g/cm ³
MOLECULAR WEIGHT:	307.8 g/mol		

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Excessive heat and open flame. Avoid creating dusty conditions.

INCOMPATIBLE MATERIAL: Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can lead to the release of: Carbon monoxide, Nitrogen oxides (NOx), Hydrogen cyanide, and Hydrogen chloride

HAZARDOUS POLYMERIZATION: Does not occur.

MATERIAL SAFETY DATA SHEET

Tebu 45DF

MSDS DATE: 10/27/2011

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Acute Oral LD ₅₀ (rat)	>2,000 mg/kg
Acute Dermal LD ₅₀ (rat)	>2,000 mg/kg
Acute Inhalation LC ₅₀ (rat)	> 2.010 mg/L, (4-hr)
Eye Contact:	Mildly irritating (Rabbit)
Skin irritation:	Slight irritation (Rabbit)
Skin Sensitization:	Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects: Tebuconazole is not considered a primary reproductive toxicant in rats. Reproductive effects (e.g. smaller litters) were observed at the highest concentration, but were secondary to maternal toxicity.

Developmental Toxicity: Tebuconazole is not considered a primary developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

Chronic/subchronic toxicity studies Tebuconazole caused liver, spleen, adrenal and/or eye effects at high doses in chronic studies in rats and dogs.

Carcinogenicity Tebuconazole is classified by EPA as a Group C carcinogen (possible human carcinogen) based on liver tumors in mice and no evidence of carcinogenicity in rats. As the liver tumors were seen only at a dose exceeding a Maximum Tolerated Dose (MTD), no significant carcinogenic risk is posed for human exposure.

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

Neurotoxicity Tebuconazole caused only transient neurobehavioral effects (e.g. decreased motor activity) in acute, subchronic and/or developmental neurotoxicity studies in rats.

SECTION 12: ECOLOGICAL INFORMATION

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 washwaters or rinsate.

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.

Summary of effects: Tebuconazole is toxic to mammals, fish, and aquatic invertebrates.

Eco Acute Toxicity: No data available.

Eco Chronic Toxicity: No data available.

Fish toxicity:

LC50 (96 hr) Bluegill sunfish 5.7 mg/L

LC50 (96 hr) Trout 4.4 mg/L

Daphnia 93% after 30 days

Freshwater fish LC50 (96 hr) 4.4 – 5.7 m/L

Bird toxicity:

Acute oral LD50 male 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

MATERIAL SAFETY DATA SHEET

Tebu 45DF

MSDS DATE: 10/27/2011

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Pesticide wastes are acutely hazardous. Improper disposal 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.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then 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.

SECTION 14: TRANSPORT INFORMATION

TECHNICAL SHIPPING NAME: Tebuconazole

FREIGHT CLASS BULK: Fungicides, NOI (NMFC 102120)
FREIGHT CLASS PACKAGE: Fungicides, NOI (NMFC 102120)

DOT (DOMESTIC SURFACE)

Hazard Class or Division: Non-regulated

IMO/IMDG CODE (OCEAN)

Hazard Class Division Number: Non-regulated

ICAO/IATA (AIR)

Hazard Class Division Number: Non-regulated

SECTION 15: REGULATORY INFORMATION

OSHA Status: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200

TSCA Status: This product is exempt from TSCA Regulation under FIFRA Section 3(2)(B)(ii) when used as a pesticide.

CERCLA Reportable Quantity: No components listed.

SARA Title III - Section 302 - Notification and Information: None.

SARA Title III – Section 311/312 – Hazard Categories: Immediate Health Hazard; Delayed Health Hazard

SARA Title III - Section 313 - Toxic Chemical Release Reporting: None.

RCRA Status: If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

HAZARD RATINGS

HEALTH:	1	0 = MINIMAL
FLAMMABILITY:	1	1 = SLIGHT
REACTIVITY:	1	2 = MODERATE
		3 = HIGH
		4 = SEVERE

PREPARATION INFORMATION: MSDS DATE: 10/27/2011
REVISION DATE:

DISCLAIMER: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied is made. Consult Sharda USA LLC for further information.