## **Safety Data Sheet**

Revision date: 08.04.2015 Date of issue: 02.04.2015

Sr. No.	Title of the section	Information required in this section			
1.		mixture & of the company			
1.1	Identification of the substance or preparation	1.1.1 Trade Name: Shar-Teb 3.6FL Fungicide ABN: Tebu-Crop 3.6F, Tebu-Turf 3.6F, Tebusha 3.6FL 1.1.2 Product Registration No.: 83529-11			
1.2	Use of the substance/ preparation	<ul> <li>1.2.1 Recommended uses:</li> <li>✓ Fungicide</li> <li>1.2.2 Restricted uses: Not known as on date</li> </ul>			
1.3	Company/ under - taking identification	1.3.1 Company name: Sharda USA LLC 1.3.2 Contact Person: Sharon Gunning, Director, Supply Chain and Administrative Operations 1.3.3 Manufacturing site address: Universal Cooperatives, Inc. 1253 Independence Dr., Napoleon OH 43545 1.3.4 Telephone number: +91 22 5678 2800 1.3.5 Fax number: +91 22 5678 2828, +91 22 5678 2808 1.3.6 E-mail: <a href="mailto:shardain@vsnl.com">shardain@vsnl.com</a> ; WEBSITE: <a href="http://www.shardausa.com">http://www.shardausa.com</a>			
1.4	Emergency telephone	1.5.1 Emergency telephone number: 1(800) 222-1222 CHEMTREC PHONE: 1(800) 424-9300 1.5.2 Telephone number of USA importer: (610) 350-6930 1.5.3 Opening hours: 24 hrs			
2.	Hazard Identification				
2.1	Classification of the substance according to Regulation 1910.1200 [GHS]	Acute Tox. 4 – Oral (H302 – Harmful if swallowed)  Repro. Toxicity - 2 (H361 – Suspected to damaging the unborn child)  Aquatic Chronic 2 (H411 – Toxic to aquatic life with long lasting effects)  GHS07 GHS09 GHS08			
2.2	Other Information	Hazard Ratings : NFPA and HMIS Health: 1 Flammability: 0 Reactivity: 0  PROTECTIVE EQUIPMENT  GISO  HEALTH  FLAMMABILITY  PROTECTIVE EQUIPMENT			
3.	Composition /Inform	nation on Ingredien	ts	Y	
		List of raw materia	ls in the mixture with	hazardous/ non-hazardous additional	
	Composition	% CAS no		Substance name	
3.1			-96-3/ 80443-41-0	Tebuconazole Technical	
		25 NA 2 56-81-5	ξ	AU-335 Glycerol	
		0.25 11138-		Xanthum gum	
		33 7732-1		Water	
		0.55 NA		DFM 111S	
3.2	Common name and synonyms	Details not known			
4.	First Aid Measures	7110 5	0		
4.1	Description of first aid measures	<ul> <li>Inhalation: Remove source of contamination or move victim to fresh air. Keep victim warm and at rest. Treat symptomatically and supportively. Obtain medical advice if necessary.</li> <li>Skin contact: Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with water and non-abrasive soap. Persons who become sensitized may</li> </ul>			

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		require specialised medical management with anti-inflammatory agents.  - Eye contact: Immediately flush the eyes with gently flowing lukewarm water or saline solution for 20 minutes, occasionally lifting the upper and lower lids. Specialised ophthalmologic treatment might be required.  - Oral: Do not induce emesis. Seek medical advice		
4.2	Important symptoms & effects  Symptoms of poisoning may even occur after several hours; therefore medical observation for 48 hours after the accident is recommended.			
		Notes for the doctor: No relevant information or antidote available		
4.3	Immediate medical attention	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.		
5.	Fire Fighting Measu	ires		
5.1	suitable extinguishing media	Carbon dioxide, extinguishing powder or water spray can be used for cooling of unaffected stock. In case of larger fires, water spray or alcohol resistant foam to be used.		
5.2	Special hazard arising from the chemical	Toxic carbon and nitrogen oxides		
5.3	Special protective equipment and precautions for firefighters	As in any fire, wear full protective clothing and self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.		
6.	Accidental Release I	Measures		
6.1	Personal precautions, protective equipment and emergency procedures	<ul> <li>6.1.1 For non-emergency personnel</li> <li>Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes.         Ventilate area of spill or leak, especially confined areas. Shut off/remove any ignition sources.         For personal protection see Section 8.</li> <li>Environmental precautions: Do not allow to enter drains or water courses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.</li> <li>Removal of ignition sources: Disconnect electrical connection and all other sources of ignition.</li> <li>Provision of sufficient ventilation: Adequate ventilation should be provided when accidental release occurs</li> <li>6.1.2 For emergency responders: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Do not touch the spilled material. Avoid the spread of the spillage by using adsorbents, if this can be done without risks. Ground all equipment containing material.</li> </ul>		
6.2	Methods and material for containment and cleaning up	Sweep up with dustpan and brush off inert material. The waste should be held in suitable labeled container.		
6.3	Reference to other section	If appropriate section 8 and 13 shall be referred to		
7.	Handling and Storag	1 Storage		
7.1.		7.1.1. Recommendations shall be specified to:		
	Precautions for safe handling	Remove sources of naked flame or sparks. Avoid contact with eyes, prolonged contact with skin, and inhalation of fumes and spray particles. Use with adequate ventilation. Do not apply directly to areas where surface water is present. Water used to clean equipment must be disposed of correctly to avoid contamination.		
		7.1.2. Advice on general occupational hygiene:  (a) not to eat, drink and smoke in work areas		
		(a) not to eat, drink and smoke in work areas (b) to wash hands after use; and		
		(c) To remove contaminated clothing and protective equipment before entering eating areas		

Abiv: Tebu-Crop 3.or, Tebu-Turi 3.or, Tebusha 3.orL				
7.2	<b>Conditions for</b>	(a) How to manage risks associated with storage:		
	safe storage,	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage temp is 0-6°C		
	including any incompatibilities	(b) Other advice including: Do not contaminate water, food, or feed by storage or disposal. Store in		
	meompatibilities	cool place. Keep container tightly closed in a dry place.		
8.	<b>Exposure Controls</b> /	Personal Protection		
		Components with limit values that require monitoring at the workplace		
		107534-96-3 OSHA permissible exposure limit (PEL): Not available		
		American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV): Not available		
8.1	Control	56-81-5 US health exposure limits (NIOSH):		
0.1	parameters	PEL (Permissible) = TWA 15 mg/m3 (total) TWA 5 mg/m3 (resp)		
		REL (Recommended) = None establisher TLV: mist 10 mg/m3 as TWA (ACGIH 2005).		
		MAK: 50 mg/m3 (Inhalable fraction)		
		IDLH (Immediate danger) = N.D.		
8.2	<b>Exposure controls</b>			
	Appropriate	The description of appropriate exposure control measures shall relate to the identified use(s) of the substance or mixture as referred to in subsection 1.2. This information shall be sufficient to enable the		
8.2.1	engineering	employer to carry out an assessment of risk to the safety and health of workers arising from the		
	controls	presence of the substance.		
		(a) Eye / face protection: Wear appropriate protective eyeglasses, splash goggles or chemical safety		
		goggles and face shield.		
		<b>(b) Skin protection:</b> Wear appropriate protective clothing like impervious lab coat, apron or coveralls.		
	Individual protection	(i) <u>Hand protection</u> : Use compatible chemical / solvent resistant protective gloves made of suitable		
		materials like rubber, plastic, etc,		
8.2.2				
	measures	(ii) Other: Wear appropriate boots and other footwear.		
		(c) Respiratory protection: In case of brief exposure or low pollution, use respiratory filter device. In		
		case of intensive or longer exposure, use self-contained respiratory		
		protective device. Short term filter device: Filter AX. In case of emergency spills, use a NIOSH approved respirator with any N, R, P, or		
		HE filter.		
		(d) General protective and hygienic measures:		
		Keep away from foodstuffs, beverages and feed.		
		Immediately remove all soiled and contaminated clothing.		
		Wash hands before breaks and at the end of work.      Store protective clothing separately.		
9.	Physical & Chamics	• Store protective clothing separately.  Physical & Chemical Properties		
<b>7.</b>	I nysicai & Chemica			
		(a) Appearance: Liquid		
		(b) Odour: Characteristic		
		(c) Initial boiling point and boiling range: >100°C		
	Information on	(d) Flash point: Not applicable		
9.1	basic physical and chemical	(e) Vapour pressure: 23 hPa (17 mm Hg)		
	properties	(f) Bulk Density: 9.12 lb/gal at 25°C		
	F - F	(g) pH value: 5.72		
		(h) Solubility(ies): in water: miscible with water		
	Other information	(i) Explosive properties: None		
		(j) Flammability : Not flammable  No relevant information available		
9.2		t Bla natarrant rate amantina arrantatala		

ABN:	Tebu-Crop 3.6F, Tebu-Turf 3.6F, Tebusha 3.6FL			
10.	Stability and Reacti	vity		
10.1	Reactivity	Not known		
10.2	Chemical stability	Stable under recommended storage conditions		
10.3	Possibility of hazardous reactions	No information known		
10.4	Conditions to avoid	Not known		
10.5	Incompatible materials	Strong oxidizing agents		
10.6	Hazardous decomposition products	Thermal decomposition or combustion may produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.		
11.	Toxico-logical Infor	nation		
11.1	Information on toxicological effects	<ul> <li>(a) acute toxicity: Acute oral toxicity (category 4)</li> <li>(b) skin corrosion/irritation: not irritant</li> <li>(c) serious eye damage/irritation: not irritant</li> <li>(d) respiratory or skin sensitization: Not sensitizing</li> <li>(e) Carcinogenicity: no known evidence</li> <li>(g) reproductive toxicity: Repro tox. in category 2</li> <li>(h) STOT-single exposure: no known evidence</li> <li>(i) STOT-repeated exposure: no known evidence</li> </ul>		
11.2	Numerical measures of toxicity (such as acute toxicity estimates)	CAS no.   Toxicity details		

11.3	Chemical if, listed in NTP or IARC or by OSHA as Carcinogens	Active Ingredic in mice. At the l were seen. This sensitive mouse combined chron	causes significantly less reaction, though within 5 min it visibly dehydrates the lens, causing its capsule to become wrinkled.  not a listed carcinogen  ent: Two 21-months combined chronic toxicity/carcinogenicity studies were concluded to the combined chronic toxicity and an increased incidence of liver tumour tumorigenic potential is not considered relevant to humans as it is only found in a strain and at very high dose levels above the maximum tolerated dose. In a two-yaic toxicity/carcinogenicity study in rats there was no evidence for carcinogenicity	rs a year 7.
11.4	Additional information	Neurotoxicity: Tebuconazole caused only transient neurobehavioral effects (e.g. decreased motor activity) in acute, subchronic and/or developmental neurotoxicity studies in rats.		
12.	Ecological Informat	tion		
12.1	Eco – Toxicity	CAS no. 107534-96-3	Aquatic toxicity values  Toxicity to fish:  LC50 - Carassius auratus (goldfish) – 8.7 mg/l at 96 h  LC50 (Fish) – 4.266 mg/L at 96 h  Toxicity to daphnia: -  EC50 - Daphnia magna (Water flea) – 11. mg/l at 48 h  LC50 – Daphnia – 6.336 mg/L  Toxicity to algae: -  EC50 - Desmodesmus subspicatus (green algae) – 5.3 mg/l at 72 h  EC50 – Green Algae – 1.449 mg/L at 96 h	
	Persistence and degradability	CAS no.	Persistence and degradability  Probability of Rapid Biodegradation (BIOWIN v4.10):	
12.2		10/334-70-3	Biowin1 (Linear Model): 0.1054 Biowin2 (Non-Linear Model): 0.0019 Expert Survey Biodegradation Results: Biowin3 (Ultimate Survey Model): 1.8132 (months) Biowin4 (Primary Survey Model): 2.8629 (weeks) MITI Biodegradation Probability: Biowin5 (MITI Linear Model): 0.0314 Biowin6 (MITI Non-Linear Model): 0.0138 Anaerobic Biodegradation Probability: Biowin7 (Anaerobic Linear Model): -1.1158 Ready Biodegradability Prediction: NO Based on the modified MITI test, tebuconazole is concluded to be not readily biodegradable	
12.3	Bio accumulative potential	CAS no. 107534-96-3	BCF  Bioaccumulation Estimates (BCFBAF v3.01):  Log BCF from regression-based method = 2.108 (BCF = 128.3 L/kg wet-wt)	_
			Log Biotransformation Half-life (HL) = 0.7100 days (HL = 5.129 days) Log BCF Arnot-Gobas method (upper trophic) = 2.639 (BCF = 435.2) Log BAF Arnot-Gobas method (upper trophic) = 2.642 (BAF = 438.7) log Kow used: 3.70 (expkow database) Log Kow (experimental): 3.70 Log Kow used by BCF estimates: 3.70 Equation Used to Make BCF estimate: Log BCF = 0.6598 log Kow - 0.333 + Correction Correction(s): Value	

Shar-Teb 3.6FL Fungicide ABN: Tebu-Crop 3.6F, Tebu-Turf 3.6F, Tebusha 3.6FL

	Tebu-Crop 3.6F, Tebu				
			No Applicable Correction Factors Estimated Log BCF = 2.108 (BCF = 128.3 L/kg wet-wt) Not bioaccumulative		
12.4	Mobility in soil	CAS no.	Soil Mobility		
		107534-96-3	The test results revealed a low mobility character of tebuconazole in soils.  Tebuconazole is partly reversibly adsorbed to the soil. However, organic carbon adsorption coefficients of 800-1250 L/kg indicate a moderate to high adsorption of tebuconazole to soil and thus a low mobility potential in soil.		
12.5	General information	Water hazard class: 2 (self-assessment) – hazardous to water  Do not allow the product to reach through ground water, water course or sewage system.  Danger to drinking water if even small quantity leaks into the ground system.			
13.	Disposal Considera		The mixture is not persistent, bio accumulative or toxic (Not PBT)		
13.1	Waste treatment methods	(a) Waste treat specified includ any contaminate (b) Physical/ch options shall be	•		
		(d) Special pre	cosal: Sewage disposal shall be discouraged cautions: Where appropriate, any special precautions for any recommended wasten shall be identified.		
13.2	Additional information:	RCRA HAZARD CLASS: 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.			
14.	Transport Informa	tion			
	Information includes RID, ADR, AND, ICAO, DOT, IMDG, IATA- DGR	14.2. UN proper shipping name:  ✓ ADR: 3082 Environmentally Hazardous Substance, Liquid, n.o.s. (1-(4-Chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol)  ✓ DOT - Environmentally hazardous substance, liquid, n.o.s. (1-(4-Chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol)  ✓ IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(4-Chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol) MARINE  POLLUTANT  ✓ IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-(4-Chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol)  14.3. Transport hazard class(es): 9  14.4. Packing group: III  14.5. Environmental hazards (e.g., Marine pollutant (Yes/No)): Yes  14.6. Special precautions for user: Warning  ✓ Danger Code: 90;  ✓ EMS Number: F-A,S-F  14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code: Not applicable  14.8. Additional information: ADR/ IMDG  ✓ Limited quantities (LQ) – 5L; Excepted Quantities (EQ) – E1  ✓ Maximum net quantity per inner packaging: 30 ml  ✓ Maximum net quantity per outer packaging: 1000 ml			
4 =		✓ Tunnel	ort category – 3 I restriction code – E		
15.	Regulatory Informa		leted beyond information. The mendion than he are also if the day of the letter of the		
15.1	Safety, health and environmental regulations/other legislations	with direct Hazard sta	elated hazard information: The product has been classified and marked in accordance tives on hazardous materials atements:  Causes moderate eye irritation		

ADN:	Tebu-Crop 3.or, Tebu	-Turf 3.6F, Tebusha 3.6FL		
		✓ Harmful if swallowed inhaled or absorbed through skin.		
		Signal word – CAUTION		
		Precautionary statements :		
		✓ Avoid contact with skin eyes and clothing		
		✓ Avoid breathing vapor or spray mist.		
		Other regulations: Listed /not listed within the following regulation		
		✓ Sara - section 355 (extremely hazardous substance): none of the ingredients are listed.		
		✓ Sara – section 313 (specific toxic chemical listing): none of the ingredients are listed.		
		✓ TSCA: CAS no.: 56-81-5; 11138-66-2; 7732-18-5 – all 3 listed		
		✓ Proposition 65 (chemical known to cause cancer) : none of the ingredients are listed		
		✓ Proposition 65 (chemical known to cause reproductive toxicity for females/ males) :		
		none of the ingredients are listed		
		Carcinogenic categories (EPA): none of the ingredients are listed		
		✓ TLV: ACGIH – 1000 ppm		
		✓ NIOSH – Ca (National Institute of Occupational Health and Safety): none of the		
16	041 7 6 4	ingredients are listed		
16.	Other Information	Coation 1. Identification of the substance/minture and of the common viva deutahing		
		Section 1: Identification of the substance/mixture and of the company/undertaking Section 2: Hazard Identification - Changes in Classification and Labelling.		
		Section 3: Composition /Information on Ingredients		
		Section 5: Composition / Information on ingredients  Section 5: Fire-fighting measures		
		Section 6: Accidental Release measures		
		Section 7: Handling and storage.		
16.1	Indication of	Section 8: Exposure Controls/Personal protection.		
	changes	Section 9: Physical and Chemical properties.		
		Section 10: Stability and Reactivity.		
		Section 11: Toxicological Information.		
		Section 12: Ecological Information.		
		Section 14: Transport labeling		
		Section 15: Regulatory Information		
		GHS: Globally harmonized system on classification and labelling		
		TWA: Time Weighted Average		
		STEL: Short Term Exposure Limit		
		PEL: Permissible Exposure Limits		
		ACGIH: American Conference of Governmental Industrial Hygienists		
		NIOSH: National Institute for Occupational Safety and Health		
		TLV: Threshold Limit Value		
		MARPOL: Marine pollution		
		IBC Code: International Code for the Construction and Equipment of Ships carrying		
		Dangerous Chemicals in Bulk		
16.2	Abbreviations and	IARC: International Agency for Research on Cancer		
	acronyms	NTP: National Toxicology Program		
		CAS: Chemical Abstracts Service (division of the American Chemical Society)		
		LC50: Lethal concentration, 50 percent		
		• LD50: Lethal dose, 50 percent		
		IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport		
		Association		
		• IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association"		
		(IATA) ICAO: International Civil Aviation Organization		
		ICAO-TI: Technical Instructions by the "International Civil Aviation Organization"  Compared to the American Approximate Action Ac		
		Sara : Superfund Amendments and Reauthorization Act     WIFEL Washington Francisco and Francisc		
		WEEL: Workplace Environmental Exposure Level    Weekl: Workplace Environmental Exposure Level		
		<ul> <li>http://dissemination.echa.europa.eu/Biocides/ActiveSubstances/0051-07/0051- 07_Assessment_report.pdf</li> </ul>		
	Key literature			
16.3	references and	<ul> <li>http://www.sigmaaldrich.com/MSDS/MSDS/DisplayMSDSPage.do?country=IN&amp;language=e n&amp;productNumber=32013&amp;brand=FLUKA&amp;PageToGoToURL=http%3A%2F%2Fwww.sig</li> </ul>		
10.3	sources for data	maaldrich.com%2Fcatalog%2Fsearch%3Fterm%3D107534-96-		
	Sources for data	3%26interface%3DCAS%2520No.%26N%3D0%26mode%3Dmatch%2520partialmax%26la		
		ng%3Den%26region%3DIN%26focus%3Dproduct		
		http://en.wikipedia.org/wiki/Tebuconazole		
		- http://eii.wikipedia.org/wiki/1educoliazoie		

Shar-Teb 3.6FL Fungicide
ABN: Tebu-Crop 3.6F, Tebu-Turf 3.6F, Tebusha 3.6FL

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	<ul> <li>http://www.fao.org/agriculture/crops/agp-home/en/</li> </ul>
	<ul> <li>http://www.epa.gov/fedrgstr/EPA-PEST/1999/January/Day-08/p319.htm</li> </ul>
	<ul> <li>http://www.scbt.com/datasheet-204906-tebuconazole.html</li> </ul>
	<ul> <li>http://pubchem.ncbi.nlm.nih.gov/compound/16212339?from=summary#section=Related-</li> </ul>
	Compounds-with-Annotation
	<ul><li>http://webbook.nist.gov/cgi/cbook.cgi?ID=107534-96-3</li></ul>
	<ul> <li>http://www.chemnet.com/cas/en/107534-96-3/TEBUCONAZOLE.html</li> </ul>
	EPI Suite Calculative report
	<ul> <li>http://en.wikipedia.org/wiki/Glycerol</li> </ul>
	<ul><li>http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+492</li></ul>
	<ul> <li>http://www.cdc.gov/niosh/ipcsneng/neng0624.html</li> </ul>

Disclaimer: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. The information above is believed to be accurate and represents the best information currently available to us. No representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Users should make their own investigations to determine the suitability of the information for their particular purposes. Consult Sharda USA LLC for further information.