Material Safety Data Sheet

TetraSan™ 5 WDG

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, and storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TetraSan™ 5 WDG
VC NUMBER(S): 1241 & 1272
ITEM: 69760
SYNONYM(S): S-1283 5 WDG; V-1283 5 WDG
EPA REGISTRATION NUMBER: 59639-108

MANUFACTURER
VALENT USA CORPORATION
P.O. Box 8025
1600 Riviera Avenue, Suite 200
Walnut Creek, CA 94596-8025

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION
AGRICULTURAL PRODUCTS: (800) 682-5368
PROFESSIONAL PRODUCTS: (800) 898-2536

The current MSDS is available through our website or by calling the product information numbers listed above. (www.valent.com)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight/Percent	ACGIH Exposure Limits	OSHA Exposure Limits
Etoxazole (2-(2,6-difluorophenyl)-4-[4-(1,1-dimethylethyl)-2-ethoxyphenyl]-4,5-dihydrooxazole) * (153233-91-1)	4.75 - 5.25	None	None
Kaolin clay (1332-58-7)	< 40	2 mg/m³ TWA (respirable fraction)	15 mg/m³ TWA 5 mg/m³ TWA
Others ** (No CAS#)	40 - 96	None	None

* Active Ingredient

** Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in ths product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **1-800-892-0099** at any time.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

- Harmful if swallowed.
- Avoid breathing dust or spray mist.
- Do not get in eyes, on skin or on clothing.
- Keep out of reach of children.

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure)

Signs and Symptoms of Systemic Effects: Signs of toxicity observed in test animals exposed to high doses of Etoxazole Technical included abnormal gait, decreased respiratory rate, lethargy, vomiting, decreased body weight and reduced food consumption.

Acute Eye Contact: This product can cause brief and/or minor eye irritation. The expected adverse health effects resulting from an exposure may include redness and possible swelling.

Acute Skin Contact: This product can cause brief and/or minor irritation. The expected adverse health effects resulting from an exposure may include redness and possibly some minor swelling. This product is minimally toxic when absorbed through the skin. This product is not expected to cause allergic skin reactions.

Acute Ingestion: This product is minimally toxic when ingested.

Acute Inhalation: This product is minimally toxic when inhaled. Exposure to high concentrations of dust may result in respiratory irritation. Signs and symptoms may include, but not be limited to, nasal discharge, sore throat, coughing and difficulty in breathing.

Chronic Toxicity (including cancer): Repeated high doses of Etoxazole Technical in laboratory animals produced increased liver weights, changes in the testis, and tumors in the testis and pancreas.

Developmental Toxicity (birth defects): Slight developmental effects were produced in animals exposed to Etoxazole Technical at maternally toxic dose levels.

Reproductive Toxicity: Based on the results of animal studies, Etoxazole Technical is not expected to cause adverse reproductive effects.

Potentially Aggravated Medical Conditions: Individuals with preexisting diseases of the liver may have increased susceptibility to the toxicity of excessive exposures.

For complete discussion of the toxicology data from which this evaluation was made, refer to Section 11. For Regulatory Information, refer to Section 15.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 892-0099

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

EYE CONTACT:
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 CONTACT:
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 poison control center or doctor immediately for treatment advice. Have a 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.

INHALATION:
Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN:
None

5. FIRE FIGHTING MEASURES

FLASH POINT: Not applicable
AUTOIGNITION: No data available
EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

NFPA RATING:

Health:	2
Flammability:	1
Reactivity:	0
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of nitrogen. Combustion may produce toxic: Fluorine compounds. Incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION
Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

FOR SPILLS ON LAND:
CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.

SKIN PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

EXPOSURE LIMITS - See Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Granule
COLOR:	Brown
ODOR:	No data available
MELTING POINT:	No data available
BULK DENSITY:	548.6 g/l, 34.2 lbs./cu ft
VAPOR PRESSURE:	7.0×10^{-6} Pa @ 25°C (etoxazole technical)
pH:	5.94
CORROSION CHARACTERISTICS:	No data available
SOLUBILITY:	Dispersible in water

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable at normal ambient temperatures.
INCOMPATABILITY:	None known
OXIDATION/REDUCTION PROPERTIES:	Not reactive with water, monoammonium phosphate, zinc, and potassium permanganate.
EXPLODABILITY:	Not expected to be explosive.
HAZARDOUS DECOMPOSITION PRODUCTS:	No data available

11. TOXICOLOGICAL INFORMATION

ACUTE (Product Specific Information):

Eye Irritation:	This product produced brief and/or minor eye irritation in the eyes of test animals. (Toxicity Category III)
Skin Irritation:	This product produced brief and/or minor irritation in animals. (Toxicity Category IV)
Oral Toxicity:	The oral LD_{50} in rats is 4500 mg/kg for males and 2600 mg/kg for females. (Toxicity Category III)
Dermal Toxicity:	The dermal LD_{50} in rats is > 5000 mg/kg. (Toxicity Category IV)
Inhalation Toxicity:	The 4-hour inhalation LC_{50} in rats is > 2.05 mg/L. (Toxicity Category IV)
Skin Sensitization:	This material was not a skin sensitizer in the modified Buehler Guinea Pig Sensitization test.

TOXICITY OF ETOXAZOLE TECHNICAL

SUBCHRONIC: Compound-related effects observed in rodent studies, at high dietary dose levels of Etoxazole Technical, included increased liver weight, histological changes in the liver, and slight changes in hematology and blood biochemistry parameters. The NOELs in rats and mice were 100 and 400 ppm, respectively. In a 13-week feeding study in dogs with Etoxazole Technical, dose-related effects noted at the top two levels (10000 and 2000 ppm) included increased liver weights, decreased prostate weights, histological changes of the liver and prostate (acinar cell atrophy), and changes in blood biochemistry (high dose only). The NOEL for this study was 200 ppm. In a 28-day dermal toxicity study, no adverse effects were observed at doses of Etoxazole Technical up to 1000 mg/kg/day.

CHRONIC/CARCINOGENICITY: Two rat chronic/oncogenicity studies have been conducted with rats fed Etoxazole Technical in the diet. The first study, conducted at dose levels of 0, 4, 16 and 64 mg/kg/day, indicated liver toxicity and tumors of the testis and pancreas, but a MTD was not achieved. A second confirmatory study was conducted at dose levels of 0, 50, 5000 and 10000 ppm. The findings of the second study confirm that Etoxazole Technical is not carcinogenic. Two oncogenicity studies were also conducted in mice using dietary levels ranging from 15 to 4500 ppm. Again, Etoxazole Technical was found to be toxic to the liver at high doses, but not carcinogenic. In a one year study in dogs with Etoxazole Technical, an increase in absolute and relative liver weights was observed with corresponding histopathological changes in the liver at 1000 and 5000 ppm. The NOEL for this study was 200 ppm.

DEVELOPMENTAL TOXICITY: No developmental toxicity was observed in rats even at maternally toxic levels of Etoxazole Technical. Based on decreased food consumption at the 1000 mg/kg/day level, the maternal NOEL was 200 mg/kg/day and the developmental NOEL was 1000 mg/kg/day. In rabbits, Etoxazole Technical produced a slight increase in skeletal variations, but only at the maternally toxic level of 1000 mg/kg/day (based on decreased body weight gain, reduced food consumption and enlarged liver). The maternal and developmental NOELs were both 200 mg/kg/day.

REPRODUCTION: In a two-generation rat reproductive study with Etoxazole Technical, an increase in relative liver weight was observed in the F0 and F1 males in the 2000 ppm group. At the 2000 ppm level, the viability index on lactation day 4 was reduced in F1 pups. Body weights of this group were also reduced in F1 and F2 pups during the latter half of the lactation period. The NOEL for both adults and offspring was 400 ppm.

MUTAGENICITY: Etoxazole Technical was negative in the Microbial/Microsome Reverse Mutation Assay (Ames Test), in vivo mouse micronucleus assay, Unscheduled DNA Synthesis and the in vitro chromosome aberration test in Chinese hamster lung cells. A positive response was observed in the mammalian mutation assay using L5178Y mouse lymphoma cells.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 3. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY: Etoxazole Technical is considered to be practically nontoxic to birds based on results of test in the following species:

Mallard duck oral LD_{50} : greater than 2000 mg/kg;
Bobwhite quail dietary LC_{50} : greater than 5200 ppm.
No reproductive effects were observed in bobwhite quail exposed to 1000 ppm of Etoxazole Technical, the highest dose tested.

AQUATIC ORGANISM TOXICITY: Etoxazole Technical is moderately to highly toxic to fish and very highly toxic to aquatic invertebrates:

96-Hour LC_{50} rainbow trout: 2.8 mg/l;
96-Hour LC_{50} bluegill sunfish: 1.4 mg/l;
96-Hour LC_{50} Japanese carp: 0.89 mg/l;
48-Hour EC_{50} Daphnia magna: 7.1 µg/l;
Early life-stage rainbow trout MATC: 0.022 mg/l;
Life-cycle Daphnia magna MATC: 0.48 µg/l.
(MATC - Maximum Acceptable Toxicant Concentration)

OTHER NON-TARGET ORGANISM TOXICITY: Etoxazole Technical is practically nontoxic to adult worker honey bees. The 48-hour LD_{50} values were: Oral LD_{50} > 200 µg/bee & Contact LD_{50} > 200 µg/bee.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

14. TRANSPORT INFORMATION

DOT (ground) SHIPPING NAME:	Pesticides, dry, non-regulated
DOT TECHNICAL SHIPPING NAME:	Etoxazole 5% Granule
DOT REPORTABLE QUANTITY (RQ):	None
UN/NA NUMBER:	Not applicable
HAZARD CLASS:	Not applicable
REMARKS:	None
EXEMPTION REQUIREMENT:	None

15. REGULATORY INFORMATION

REGULATIONS UNDER FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). 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.

OTHER U.S. FEDERAL REGULATIONS:

CWA Section 311: No data

Chemical Name	SARA 313 Chemicals	SARA Section 302	CERCLA Reportable Quantity (RQ):
Etoxazole (2-(2,6-difluorophenyl)-4-[4-(1,1-dimethylethyl)-2-ethoxyphenyl]-4,5-dihydrooxazole) * (153233-91-1)	Not listed	Not listed	None
Kaolin clay (1332-58-7)	Not listed	Not listed	None
Others ** (No CAS#)	Not listed	Not listed	None

SARA (311, 312):

Immediate Health: Yes
Chronic Health: Yes
Fire: No
Sudden Pressure: No
Reactivity: No

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. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 2 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above.

Chemical Name	MI - Critical Materials List	MA Right To Know	NJ Right To Know
Kaolin clay (1332-58-7)		Present	

Chemical Name	PA Right To Know	RI Right To Know	MN Hazardous Substance
Kaolin clay (1332-58-7)	Present	Toxic	Present (includes inert or nuisance dust)

California Proposition 65: Not listed

CANADIAN REGULATIONS:

WHMIS Hazard Class: Not determined

For information regarding potential adverse health effects from exposure to this product, refer to Sections 3 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE: Change the Manufacturer's address, input MSDS into the new system and minor edits throughout.
MSDS NO.: 0200
REVISION NUMBER: 2
REVISION DATE: 03/08/2005
SUPERCEDES DATE: 02/28/2000

THE INFORMATION IN THIS MSDS IS BASED ON DATA AVAILABLE TO US AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. CONTACT VALENT USA CORPORATON TO CONFIRM IF YOU HAVE THE MOST CURRENT MSDS.

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