Safety Data Sheet

TetraSan™ 5 WDG Miticide

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TetraSan™ 5 WDG Miticide
PCPA REGISTRATION NUMBER: 32005
VC NUMBER(S): 1241, 1272
PRODUCT DESCRIPTION: Miticide for Greenhouse Ornamentals and Greenhouse Tomatoes

TetraSan is a trademark of Valent U.S.A. Corporation

MANUFACTURER/DISTRIBUTOR
VALENT CANADA, INC.
3-728 Victoria Road South
Guelph, Ontario N1L 1C6

EMERGENCY TELEPHONE NUMBERS
HEALTH EMERGENCY OR SPILL (24 hr):
(800) 682-5368
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

Product Information
AGRICULTURAL PRODUCTS: (800) 682-5368

2. HAZARDS IDENTIFICATION

Emergency Overview

Caution

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

POTENTIAL HEALTH EFFECTS

Acute Toxicity (Primary Routes of Exposure): None known

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

Acute Skin Contact: This product may cause minor skin irritation and / or short term. If exposed, the expected adverse health effects may include irritation and possibly a slight inflammation. 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.

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.

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 Ecotox/Environmental Information, refer to Section 12. For Regulatory Information, refer to Section 15.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	Purpose
Etoxazole	153233-91-1	3 - 7	Active ingredient
Kaolin clay	1332-58-7	15 - 40	Carrier
Others	No CAS#	30 - 60	Other Ingredients

Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this 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 **(800) 682-5368** at any time.

4. FIRST AID MEASURES

EMERGENCY NUMBER (800) 682-5368

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-682-5368** 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 centre 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 centre or doctor for treatment advice.

Ingestion:
Call a poison control centre 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 centre 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 centre 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.

Hazardous decomposition products: Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of nitrogen. Combustion may produce toxic gases of: Fluorine compounds. Incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 682-5368
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.**

UN/NA Number: Not applicable **Emergency Response Guidebook No.:** Not applicable

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.

Handling:

Wear protective clothing and equipment when handling this product. Goggles or protective eyeware, gloves, long-sleeved shirt, long pants, socks and shoes are appropriate. 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 this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Do not remove water soluble packet from outer bag except for immedite use. Do not allow to become wet in storage. Keep outer bag sealed when not in use.

Storage:

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 & FACE: 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 & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.

Exposure limits

Chemical Name	Canadian OELs
Etoxazole	none
Kaolin clay	none
Others	none

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM:	Granule
COLOUR:	Brown
ODOUR:	No Data Available
FLASH POINT:	Not applicable
MELTING POINT:	No data available
BULK DENSITY:	548.6 g/l, 34.2 lbs./cu ft

VAPOUR PRESSURE:	7.0 x 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:	Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of nitrogen. Combustion may produce toxic gases of: Fluorine compounds. Incomplete combustion can produce carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral Toxicity LD_{50} (rats)	4500 mg/kg-males 2600 mg/kg-females	EPA Tox Category	III
Dermal Toxicity LD_{50} (rabbits)	>5000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC_{50} (rats)	>2.05 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Brief and/or minor irritation	EPA Tox Category	III
Skin Irritation (rabbits)	Brief and/or minor irritation	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC - Group 1 (carcinogenic to humans)	IARC - Group 2A (Probably carcinogenic)	IARC - Group 2B (Possibly carcinogenic)	NTP Carcinogen List
Etoxazole	no	no	no	Not listed
Others	Not known	Not Known	Not known	Not known
Kaolin clay	no	no	no	Not listed

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 2. 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:

Oral LD_{50} Mallard duck: greater than 2000 mg/kg
Dietary LC_{50} Bobwhite quail: 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.

OTHER ENVIRONMENTAL INFORMATION:
This product is toxic to freshwater and marine/estuarine aquatic invertebrates, including oysters and shrimp. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters or rinsate. Do not apply where weather conditions favor drift from areas treated.

13. DISPOSAL CONSIDERATIONS

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

PRODUCT DISPOSAL: For information on disposal of unused, unwanted product, contact the provincial regulatory agency or manufacturer. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

CONTAINER DISPOSAL: Nonrefillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incinerations, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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

14. TRANSPORTATION INFORMATION

DOT (ground) shipping name: Not regulated for domestic ground transport by US DOT or Canada TDG.
Remarks: None
Emergency Response Guidebook No.: Not applicable

ICAO/IATA proper shipping name: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Etoxazole), 9, III, Marine Pollutant
Remarks:
•Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IATA Special Provision A197
•For US shipping, Emergency Response Guidebook No. 171

IMDG proper shipping name: UN 3077, Environmentally hazardous substance, Solid, N.O.S. (Etoxazole), 9, III, Marine Pollutant
Remarks:
•Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7
•For US shipping, Emergency Response Guidebook No. 171
EMS No.: F-A, S-F

15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

WHMIS Hazard Class: This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations (CPR)* and the SDS contains all information required by the CPR.

Kaolin clay
Canada DSL Inventory List - Present
EINECS Inventory List - Present
Others
Canada NDSL Inventory List - Not listed
EINECS Inventory List - Not listed

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

PESTICIDE REGULATIONS: All pesticides are governed under PCPA (Pest Control Products 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.

PROVINCIAL REGULATIONS: This product did not trigger any provincial regulations.

16. OTHER INFORMATION

REASON FOR ISSUE: Added Canadian registration number (PCPA). Update transportation information.
SDS NO.: CAN-0200
PCPA REGISTRATION NUMBER: 32005
REVISION NUMBER: 2
REVISION DATE: 11/05/2015
SUPERCEDES DATE: April 4, 2013
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

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The Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE PMRA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS 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.

The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the PMRA under the authority of the *Pest Control Products Act*through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use a PMRA-registered pesticide product in any manner inconsistent with its labeling.