



Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: ZEAL® PRO Miticide
EPA REGISTRATION NUMBER: 59639-241
VC NUMBER(S): 2076; 2093; 2102 (and other similar formulations)
PRODUCT DESCRIPTION: Miticide

Zeal is a registered trademark of Valent U.S.A. LLC

MANUFACTURER/DISTRIBUTOR
 VALENT U.S.A. LLC
 P.O. Box 5075
 4600 Norris Canyon Road
 San Ramon, CA 94583

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

2. HAZARDS IDENTIFICATION

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA-required classifications on the product label. Certain sections of this SDS are superseded by federal law under EPA FIFRA for a registered pesticide. Please see Section 15, REGULATORY INFORMATION for an explanation.

Classification - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2B
Skin Sensitization	Category 1B
Carcinogenicity	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING**Hazard statements**

Harmful if inhaled
 Causes mild skin irritation
 Causes eye irritation.
 May cause an allergic skin reaction
 Suspected of causing cancer

Precautionary statements**Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid contact with eyes and skin

Response

IF EXPOSED OR CONCERNED: Get medical advice/attention

Eyes IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin IF ON SKIN: Wash with plenty of soap and water.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Ingestion None.

FIRE None.

Spill None.

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other Information**

- Very toxic to aquatic life with long lasting effects.

For information on Transportation requirements, see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	TRADE SECRET
Etoxazole	153233-91-1	6	

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1-methylnaphthalene	90-12-0	15 - 17	*
2-methylnaphthalene	91-57-6	25 - 27	*
Naphthalene	91-20-3	<0.6	*
Others	VARIOUS CAS NO.	Balance	*

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are 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) 892-0099** at any time.

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:

Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. 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:

Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis.

5. FIRE FIGHTING MEASURES

Flash point °C >93.3 °C

Flash point °F >200 °F

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: 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.

UN/NA NUMBER: Not applicable

EMERGENCY RESPONSE GUIDEBOOK NO.: Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents.

CLEANUP: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then 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: Stop or reduce contamination of any water. Isolate contaminated water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal. This material is very toxic to aquatic life. Do not apply runoff or cleanup water to enter drains, sewer or waterways.

7. HANDLING AND STORAGE

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

HANDLING:

Do not contaminate food or feed. Do not put material into food or drink containers. Do not dilute material in food or drink containers. Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Remove PPE immediately after handling this product. Wash thoroughly and put on clean clothing. Wash the outside of gloves before removing.

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

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a cool, dry place, away from heat, flame and strong acids. Store in a well-ventilated place without drain or sewer access.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

General Hygiene Considerations: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, applying makeup or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

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: Wear protective clothing (long-sleeved shirt and long pants), chemical-resistant gloves (such as barrier laminate or Viton \geq 14 mils), and shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Etoxazole	None	None	None
1-methylnaphthalene	Skin - potential significant contribution to overall exposure by the cutaneous route	None	None
2-methylnaphthalene	Skin - potential significant contribution to overall exposure by the cutaneous route	None	None
Naphthalene	10 ppm TWA, 15 ppm STEL skin - potential for absorption	10 ppm TWA, 15 ppm STEL 50 mg/m ³ TWA, 75 mg/m ³ STEL	None
Others	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	Odor	Aromatic
Appearance	Liquid	Odor threshold	No information available
Color	Yellow to Green		

<u>PROPERTIES</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6 - 8	@ 25°C (1% w/v)
Melting point/freezing point	No information available	°C
Boiling point/boiling range	No information available	
Flash point	>93.3 °C / >200 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	No information available	
Lower flammability limit	No information available	
Vapor pressure	No Information Available	
Vapor density	No information available	
Specific Gravity	No information available	

Water solubility	Emulsifiable
Solubility in other solvents	Soluble in most organic solvents
Partition coefficient	No Information Available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity	16.3 cP at 20° C 7.91 cP at 40° C
Explosive properties	No information available
Oxidizing properties	No information available
Liquid Density	1.01 g/cm ³ at 20 °C (Helium pycnometer)
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

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 may produce carbon monoxide.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral Toxicity LD ₅₀ (rats)	> 2,000 mg/kg	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits)	> 2,000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 2.15 mg/L (4 h)	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Moderately irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Contact Sensitizer LLNA	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
Etoazole	Not listed	Not listed	Not listed
Others	Not listed	Not listed	Not listed
1-methylnaphthalene	Not listed	Not listed	Not listed
2-methylnaphthalene	Not listed	Not listed	Not listed
Naphthalene	Group 2B	Carcinogen	Suspect Carcinogen

TOXICITY OF ETOXAZOLE TECHNICAL

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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 LD₅₀ Mallard duck: greater than 2000 mg/kg
Dietary LC₅₀ 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 LC₅₀ rainbow trout: 0.37 mg/L
96-Hour LC₅₀ bluegill sunfish: 0.30 mg/L

96-Hour LC₅₀ Japanese carp: 0.89 mg/L
 48-Hour EC₅₀ Daphnia magna: 7.1 µg/L
 Early life-stage rainbow trout MATC: 0.015 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 LD₅₀ values were: Oral LD₅₀ > 200 µg/bee & Contact LD₅₀ > 200 µg/bee.

13. DISPOSAL CONSIDERATIONS

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

PRODUCT DISPOSAL: Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Refer to pesticide label for proper container disposal instructions.

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

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT
REMARKS: RQ (naphthalene) applies to bulk tanker > 15,625 lb net

EMERGENCY RESPONSE GUIDEBOOK NO.:

Not applicable

ICAO/IATA SHIPPING NAME: UN 3082 Environmentally Hazardous Substance, Liquid, 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 SHIPPING NAME: UN 3082, Environmentally hazardous substance, Liquid, 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

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15. REGULATORY INFORMATION

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

EPA FIFRA SIGNAL WORD: CAUTION

- **Harmful if swallowed**
- **Harmful if absorbed through skin**
- **Causes moderate eye irritation**
- **Avoid contact with eyes, skin and clothing.**
- **Prolonged or frequent repeated skin contact may cause allergic reactions in some individuals.**
- **Keep out of reach of children.**

PESTICIDE REGULATIONS: 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.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Naphthalene

Clean Water Act - Hazardous Substances	Present
Clean Water Act Section 307	Present
SARA 313 Chemicals	0.1% de minimis concentration
CERCLA Reportable Quantity (RQ):	100 lb (45.4 kg)

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 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

1-methylnaphthalene

MA Right To Know	Present
NJ Right To Know	4199
PA Right To Know	Present

2-methylnaphthalene

NJ Right To Know	4200
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Naphthalene

California Proposition 65	carcinogen
California - Directors List of Hazardous Substances	Present
MA Right To Know	Present
NJ Right To Know	1322
PA Right To Know	Environmental hazard
RI Right To Know	Listed
MN Hazardous Substance	Present

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

16. OTHER INFORMATION

REASON FOR ISSUE: Updated Manufacturer/Distributor Address and General Review.
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REVISION NUMBER: 2
REVISION DATE: 08/20/2020
SUPERCEDES DATE: 05/19/2020
RESPONSIBLE PERSON(S): Valent U.S.A. LLC, Corporate EH&S, (925) 256-2803

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent U.S.A. LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent U.S.A. LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent U.S.A. LLC to confirm that you have the most current product label and SDS.

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 as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. 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.

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