MATERIAL SAFTEY DATA SHEET

Detox SC

IDENTIFICATION OF THE SUPPLIER:

Agro Chemical Industries LTD (ACI)
Amman – Jordan
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PRODUCT IDENTIFICATION:

Common Name: Etoxazole 34.5% w/v
Trade Name: Detox SC
Uses category: Miticide
Type of formulation: Suspension Concentrate (SC)
Chemical Name: 2-(2,6-difluorophenyl-4-[4-(1,1-dimethylethyl)-2-ethoxyphenyl]-4,5-dihydrooxazole
Chemical Formula: $C_{21}H_{23}F_2NO_2$
Molecular Weight: 359.4

PRODUCT COMPOSITION:

Active Ingredient :	**CAS #**	**w/v %**
Etoxazole	[153233-91-1*]*	34.5 %

Inert ingredient:

Up to 1 liter

HAZARDS IDENTIFICATION:

• Very toxic to aquatic life
• Very toxic to aquatic life with long lasting effects
25% of the mixture consists of ingredient(s) of unknown toxicity

FIRST-AID MEAUSRES:

Ingestion:	Call a poison control center or doctor immediately 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
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.
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.

FIRE-FIGHTING MEASURES: -

Flash point °C >100 °C
Flash point °F >212 °F

NFPA RATING:
Health: 1
Flammability: 0
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.

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FIRE FIGHTING INSTRUCTIONS: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear, if necessary.

ACCIDENTAL RELEASE MEASURE:

FOR SPILLS AND LEAKS

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.

PERSONAL PROTECTION/SAFTETY:

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 in well ventilated area. The usual precautions for handling chemicals should be observed.
SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.
ENGINEERING CONTROLS: Eyewash facilities should be available

HANDLING AND STORAGE:

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

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. Keep out of reach of children

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STORAGE:
See handling information above. Do not store at temperatures below 32º F (0° C). If the product is exposed to temperatures below 32º F (0° C), thaw at room temperature to 50º F (10° C) or warmer and shake gently to unify the product.

STABILITY AND REACTIVITY:

Reactivity
No data available
Chemical stability
Stable under normal ambient 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
None known based on information supplied.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light tan
Physical State	liquid
Odor	Mild
pH	6 - 9 @ 25° C
Vapor Pressure	no data available
Density	1.07 -1.11 g/cm^3 @ 20° C
Viscosity	130 cPs @ 20° C

TOXICOLOGICAL INFORMATION:

ACUTE TOXICITY:
The following information is for the technical material.

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Oral Toxicity LD_{50} (rats)	> 5000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD_{50} (rabbits)	> 5000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC_{50} (rats)	> 2.09 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Practically non-irritating	EPA Tox Category	IV
Skin Irritation (rabbits)	Slightly irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Not available	EPA Tox Category	Not available

CARCINOGEN CLASSIFICATION

Chemical Name	IARC	OSHA - Select Carcinogens	NTP Carcinogen List
Etoxazole	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed
Other ingredients	Not listed	Not listed	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.

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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.

ECOLOGICAL INFORMATION: -

AVIAN TOXICITY: Slightly to practically non-toxic to avian species.

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

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48-hour LD_{50} values were: Oral LD_{50} > 200 µg/bee & Contact LD_{50} > 200 µg/bee.

OTHER ENVIRONMENTAL INFORMATION:
Do not apply directly to water. Do not contaminate water by disposal of wastes.

DISPOSAL CONSIDERATIONS:

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

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

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure 2 more times.
DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material.
Dispose of in accordance with applicable laws and regulations

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