

# MATERIAL SAFETY DATA SHEET

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Issue Date: 4/22/2003

## Ultratec® AC

### SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: Valent BioSciences Corporation  
870 Technology Way, Suite 100  
Libertyville, Illinois 60048

#### EMERGENCY TELEPHONE NUMBERS

Emergency Health or Spill:

Outside the United States: 651-632-6184

Within the United States: 877-315-9819

**PRODUCT NAME: Ultratec (R) AC**

**CHEMICAL NAME: Mixture:** active ingredient, deltamethrin\*

**MSDS IDENTIFICATION CODE/NUMBER: ENV-0008**

**EPA REGISTRY NUMBER: 73049-181**

\*Chemical name for Deltamethrin: (s)-cyano-3-phenoxybenzyl-(1R,3R)-3(2,2-dibromovinyl)-2,2-dimethyl-cyclopropanecarboxylate

**PRODUCT DESCRIPTION:** DeltaGard AC is for formulation into insecticides only.

### SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>EXPOSURE LIMITS</u>	<u>CONCENTRATION PERCENT BY WEIGHT</u>
Deltamethrin	OSHA/ACGIH Limits: None established	= 1.36
CAS NUMBER: 52918-63-5	Manufacturer's Recommended Limits: TWA-TLV: 45 æg/m3 STEL (15 minutes): 100 æg/m3	
Other ingredients	OSHA/ACGIH Limits: None established	= 98.64

This product contains no hazardous inert ingredients as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200) or WHMIS regulations.

# Ultratec® AC

## SECTION 3. HAZARDS IDENTIFICATION

### \*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

A yellow liquid with a fatty oily like odor.

- This product is toxic to fish and other aquatic organisms.

\*\*\*\*\*

## POTENTIAL HEALTH EFFECTS (ACUTE EFFECTS)

### SKIN

Harmful if absorbed through skin. Skin contact may cause transient tingling and reddening of the skin.

### INGESTION

Harmful if swallowed.

### INHALATION

Harmful if inhaled.

## SECTION 4. FIRST AID MEASURES

### EYES

Flush eyes with plenty of water. Call a physician if irritation persists.

### SKIN

Wash with plenty of soap and water. Get medical attention if irritation persists.

### INGESTION

Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.

### INHALATION

Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

## SECTION 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

FLASH POINT: > 200 F > 93.3 C

### EXTINGUISHING MEDIA

Dry chemical, carbon dioxide, foam, water spray.

### FIRE FIGHTING INSTRUCTIONS

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent) and full protective gear. Keep upwind. Isolate hazard area. Avoid inhalation of smoke and fumes. Use water or foam to reduce fumes. Do not touch spilled material. If possible, move containers from area. Extinguish only if flow can be stopped. Use flooding amounts of water as a fog. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors.

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## SECTION 5. FIRE FIGHTING MEASURES - CONTINUED

### FLAMMABILITY CLASSIFICATION/RATING:

NFPA/OSHA Class: IIIB

NFPA Rating (Fire): 1

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**GENERAL AND DISPOSAL** Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the adverse effect of the spill. Ensure that the disposal is in compliance with all Federal, State/Provincial, and local regulations (See Section 13 for applicable RCRA Number). Refer to Section 15 for applicable Reportable Quantity (RQ) and other regulatory requirements.

### LAND SPILL OR LEAK

**Small Spills:** Absorb with an inert absorbent material such as granular clay, saw dust, or pet litter. Sweep up carefully while avoiding the formation of a dust cloud. Place in an approved chemical waste container for disposal. Rinse spill area with small amount of soapy water. Contain and absorb the rinsate with inert absorbents and place into the same disposal container. Area can be washed with water to remove the last trace residue. Do not allow water to contaminate water supplies or sewers.

**Large Spills:** Eliminate all ignition sources. Stop leak if you can do so without coming into contact with spilled material. Dike far ahead of liquid spill for later disposal. All equipment used to clean up spill should be grounded. Prevent entry into waterways, sewers, basements or confined areas. Inform appropriate authorities immediately if contamination occurs.

## SECTION 7. HANDLING AND STORAGE

### HANDLING PRECAUTIONS

- Avoid breathing vapors and contact with skin, eyes or clothing.

### STORAGE PRECAUTIONS

- Do not contaminate water, food or feed by storage.
- Store upright at room temperature.
- Avoid exposure to extreme temperatures.

### WORK/HYGIENIC PRACTICES

- Wash thoroughly with soap and water after handling.

# Ultratec® AC

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION - CONTINUED

### MANUFACTURING, FORMULATION AND OTHER NON-AGRICULTURAL USES

#### ENGINEERING CONTROLS

Control airborne concentrations below the appropriate exposure guideline (see Section 2 for applicable OSHA/ACGIH Exposure Limits). Local exhaust ventilation may be necessary.

#### EYE/FACE PROTECTION

Wear safety glasses, splash goggles or face shield.

#### SKIN PROTECTION

Wear chemical-resistant gloves (Neoprene, Nitrile, PVC) and other protective clothing to avoid skin contact.

#### RESPIRATORY PROTECTION

Ensure good ventilation. If not adequate, use a chemical cartridge-type respirator approved by the National Institute of Occupational Health and Safety.

#### GENERAL PROTECTION

Eye wash facility and safety shower should be available.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

A yellow liquid.

### ODOR

A fatty oily like odor.

### BASIC PHYSICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**pH:** 5.0

**VAPOR PRESSURE:** Not available

**VAPOR DENSITY (AIR=1):** Not available

**EVAPORATION RATE (BUTYL ACETATE = 1):** Not available

**SPECIFIC GRAVITY OR DENSITY:** 1.0371 g/cm<sup>3</sup> at 20°C

**PACKING (BULK) DENSITY:** 8.64 lb/gal at 20°C

**BOILING POINT/RANGE:** Not available

**MELTING/FREEZING POINT RANGE:** Not available

**SOLUBILITY (IN WATER):** Not available

**SOLUBILITY IN SOLVENTS/OIL (SPECIFIED):** Not available

**DUST EXPLOSION SEVERITY DATA:** Not applicable

**MINIMUM IGNITION ENERGY (MJ):** Not available

**MINIMUM EXPLOSION CONCENTRATION (MEC):** Not available

**LIMITED OXYGEN CONCENTRATION (LOC):** Not available

**VISCOSITY:** 216 cps @ 22°C

## Ultratec® AC

### SECTION 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

#### CONDITIONS TO AVOID

None known.

#### INCOMPATIBLE MATERIALS

Oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Combustion will produce carbon dioxide and carbon monoxide.

**HAZARDOUS POLYMERIZATION:** Will not occur

### SECTION 11. TOXICOLOGICAL INFORMATION

THE FOLLOWING DATA WERE DEVELOPED WITH: **DeltaGard AC**

#### ACUTE TOXICITY

**ORAL LD50 (rat):** > 5,050 mg/kg (practically non-toxic)  
**DERMAL LD50 (rabbit):** > 5,050 mg/kg (practically non-toxic)  
**INHALATION LC50 (rat, 4hr):** > 2.47 mg/L (practically non-toxic)  
**EYE IRRITATION (rabbit):** non-irritating (Max. Avg. Score = 8.3)  
**SKIN IRRITATION (rabbit):** non-irritating (Primary Irr. Index = 0.1)  
**SKIN SENSITIZATION (guinea pig):** non-sensitizing

**NOTE:** The severity classifications listed above, particularly for eye irritation, may not always coincide with EPA-mandated Precautionary Statements.

THE FOLLOWING DATA WERE DEVELOPED WITH: **deltamethrin, the active ingredient**

#### CHRONIC TOXICITY AND CARCINOGENICITY

General neurological symptoms were exhibited in studies with rats, mice and dogs. These symptoms included unsteadiness, abnormal gait, tremors and liquid feces. No histopathologic findings were observed except some signs of slight hepatotoxicity in mice. No Observable Effect Levels (NOEL's) were 1 mg/kg/day in the 2-year rat and dog studies. The NOEL for the 2-year mouse study was approximately 12 mg/kg/day. Deltamethrin was not carcinogenic in rats or mice.

#### REPRODUCTIVE AND DEVELOPMENTAL TOXICITY

No developmental effects were observed in studies with rabbits in the absence of maternal toxicity. The developmental NOEL for the rat study was 11 mg/kg/day (highest dose tested). The developmental NOEL in rabbits was 25 mg/kg/day. A 2-generation reproductive study with rats produced clinical signs of toxicity, reduced body weight gain and mortality in both parents and offspring. The parental and reproductive (offspring) NOEL's were 80 ppm which is equivalent to approximately 4 mg/kg/day for adults and 18 mg/kg/day for the offspring.

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### SECTION 11. TOXICOLOGICAL INFORMATION - CONTINUED

#### NEUROTOXICITY

Deltamethrin does not inhibit acetylcholinesterase. Neurobehavioral effects including unsteadiness, excessive salivation, vomiting, liquid feces, uncoordinated movement, tremors, spasmodic convulsions which are typically related to Central Nervous System (CNS) stimulation, were observed in some studies. The NOEL for these studies was 1 mg/kg/day or higher.

#### MUTAGENICITY (GENETIC EFFECTS)

No evidence of genotoxicity was observed in a battery of in vitro and in vivo studies.

### SECTION 12. ECOLOGICAL INFORMATION

#### ENVIRONMENTAL PRECAUTIONS

This product is toxic to fish and other aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

#### **THE FOLLOWING DATA WERE DEVELOPED WITH: Technical Deltamethrin**

#### ECOLOGICAL TOXICITY

Deltamethrin Technical is highly toxic to fish and other aquatic species, however, the toxicity to avian species is relatively low.

#### Avian

Bobwhite Quail (LD50): > 2250 mg/kg  
Bobwhite Quail (dietary LC50): > 5620 ppm  
Mallard Duck (dietary LC50): > 8039 ppm  
Quail Reproduction (repro NOEL): 450 ppm  
Duck Reproduction (repro NOEL): 450 ppm

#### Aquatic

Rainbow Trout (96-Hour LC50): 0.26 ppb  
Bluegill Sunfish (96-Hour LC50): 0.17 ppb  
Sheepshead Minnow (96-Hour LC50): 0.48ppb  
Eastern Oyster (96-Hour LC50): 8.2 ppb  
Mysid Shrimp (96-Hour LC50): 4.6 ppt; NOEC = 1. ppt  
Mollusk Shell Deposition (EC50): 8.2 ppb  
Chronic Toxicity-Fathead Minnow: MATC = 24 ppt  
Chronic Daphnia Toxicity: MATC = 6.0 ppt

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### SECTION 12. ECOLOGICAL INFORMATION - CONTINUED

#### ENVIRONMENTAL FATE

The major routes of dissipation are soil binding and soil microbial degradation. Although soil binding is strong, it is not immediate. It appears that spray drift is the only significant route of exposure to aquatic organisms. However, deltamethrin's strong binding capacity to slime, plants, sediment, etc. might rapidly prevent the availability of deltamethrin for bioconcentration in aquatic systems. Additionally, its insolubility in water will be a factor in limiting its bioconcentration as well. Deltamethrin hydrolyzes under alkaline conditions. Leaching studies indicate that deltamethrin is immobile.

Water Solubility: < 0.20 µg/l @ 25°C

Hydrolytic Half-Life: 2.28-2.70 days @ pH 9.0

Photolytic Half-Life: 64-86 days (water); 9 days (soil)

Soil Half-Life: 14-40 days (cropped plots); 37-69 days (bare ground) in field  
dissipation studies

Kads: 960 - 4750 depending on soil type

Koc: 204,000-577,000 depending upon soil type

Bioconcentration Factor (BCF in bluegill sunfish): 189-3630x

### SECTION 13. DISPOSAL CONSIDERATIONS

Do not contaminate water, food or feed by disposal.

**Pesticide Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and local procedures.

#### RCRA INFORMATION

RCRA HAZARDOUS WASTE INGREDIENTS: None

### SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not DOT Regulated

**NOTE:** For transport purposes (49 CFR Part 173.132), the calculated 1-Hour LC50 (Rat) is: > 9.88 mg/l.

### SECTION 15. REGULATORY INFORMATION

#### U.S. FEDERAL REGULATORY INFORMATION

CARCINOGENICITY: NTP: No IARC: No OSHA: No

## DeltaGard® AC

### SECTION 15. REGULATORY INFORMATION - CONTINUED

#### SARA TITLE III SECTION 311/312 - HAZARD CLASSES:

Acute Health Hazard - Yes  
Chronic Health Hazard - No  
Fire Hazard - No  
Sudden Release of Pressure Hazard - No  
Reactivity Hazard - No

#### SARA TITLE III - NOTIFICATIONS AND INFORMATION

Section 302 (EHS) ingredients: None

Section 304 (CERCLA & EHS) ingredients (RQ): None

Section 313 ingredients: None

### U.S. STATE REGULATORY INFORMATION

**CALIFORNIA (Proposition 65):** This product does not contain any chemical which is known to the State of California to cause cancer or birth defects or other reproductive harm.

**US STATE RIGHT-TO-KNOW INGREDIENTS:** None

### SECTION 16. OTHER INFORMATION

HMIS HAZARD RATING - HEALTH: 1 Slight  
- FIRE: 1 Slight  
- REACTIVITY: 0 Negligible  
- PROTECTION: F

NFPA HAZARD RATING - HEALTH: 1 Slight  
- FIRE: 1 Slight  
- REACTIVITY: 0 Negligible  
- SPECIAL: -

#### MSDS IDENTIFICATION CODE/NUMBER: AC

LEGEND: N/A = Not Applicable  
N/D = Not Determined  
N/L = Not Listed  
L = Listed  
C = Ceiling  
S = Short-term

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