

ReTain® Plant Growth Regulator for California

MSDS# BIO-0348 Rev. 0

ISSUED 07/19/2005

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL NAME: ReTain® Plant Growth Regulator for California

EPA REG. NO.: 73049-58

Code Number:

List Number: 12017

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name: [S]-trans-2-amino-4-(2-aminoethoxy)-3-butenoic acid  
hydrochloride (also known as aminoethoxyvinylglycine  
HCl, aviglycine HCl, AVG)

CONCENTRATION: 15.00 %

CAS/RTECS NUMBERS: 55720-26-8

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

INGREDIENT NAME: Inert Ingredients: identity withheld as Trade Secret

CONCENTRATION: 85.00 %

CAS NUMBER: N/A

OSHA-PEL 8HR TWA: N/L

STEL: N/L

CEILING: N/L

ACGIH-TLV 8HR TWA: N/L

STEL: N/L

CEILING: N/L

OTHER 8HR TWA: N/A

LIMITS STEL: N/A

CEILING: N/A

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS, continued

EEC (European Community): N/A  
Symbol Designation: N/A  
Risk Phrases: N/A  
Safety Phrases: N/A

## 3. HAZARDS INFORMATION

EMERGENCY OVERVIEW: This material is considered to be non-toxic by ingestion, skin contact, or inhalation, and is not considered to be a skin or eye irritant. This material may be toxic to aquatic plants.

ROUTE(S) OF ENTRY: Skin: No  
Inhalation: Possible, but unlikely  
Ingestion: No

SKIN CONTACT: Non-irritant

SKIN SENSITIZATION: Non-sensitizer

EYE CONTACT: Non-irritant

TARGET ORGANS: Liver, kidney, testes

CARCINOGENICITY RATING: NTP: N/L IARC: N/L OSHA: N/L ACGIH: N/L  
None

SIGNS AND SYMPTOMS: N/D.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/D.

## 4. FIRST AID MEASURES

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for further treatment advise.

If inhaled: 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.

EYES: Remove from source of exposure. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic/ supportive care as necessary.

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4. FIRST AID MEASURES, continued  
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INGESTION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/ supportive care as necessary.

## HOT LINE NUMBER

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 (24 hours) for emergency medical treatment and/or transport emergency information.

5. FIRE FIGHTING PROCEDURES  
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FLASH POINT: N/A  
FLASH POINT METHOD: N/A  
LOWER EXPLOSIVE LIMIT(%): N/A  
UPPER EXPLOSIVE LIMIT(%): N/A  
AUTOIGNITION TEMPERATURE: >400°C

FIRE & EXPLOSION HAZARDS: Non-flammable and no explosive properties.

EXTINGUISHING MEDIA: Use appropriate medium for underlying cause of fire.

FIRE FIGHTING INSTRUCTIONS: Wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES  
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SPILL OR RELEASE PROCEDURES: Recover product, place into appropriate container for disposal. Avoid dust. Ventilate and wash spill area. Bleach can be used to decompose product. Avoid washing residues into drains or other waterways.

7. HANDLING AND STORAGE  
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HANDLING: Reasonable precautions for handling chemicals should be observed.

STORAGE: Store product in closed container in a cool and dry place.  
Store at  $\leq 25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ ) for optimum shelf life.

SPECIAL PRECAUTIONS: Wash thoroughly with soap and water after handling.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust.

RESPIRATORY PROTECTION: Not usually required. If necessary, use a MSHA/NIOSH approved (or equivalent) respirator with high efficiency particulate filter (P100).

SKIN PROTECTION: Impervious gloves, clothing to minimize skin contact.

EYE PROTECTION: Safety glasses or goggles.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Off-white to pale yellow fine powder

ODOR: Odorless

BOILING POINT: N/D

MELTING/FREEZING POINT: N/D

VAPOR PRESSURE (mm Hg): N/D

VAPOR DENSITY (Air=1): N/D

EVAPORATION RATE: N/D

BULK DENSITY: 0.78 g/cm<sup>3</sup>

SPECIFIC GRAVITY: N/D

SOLUBILITY: Readily soluble in water

pH: 5.6 (in a 10% aqueous solution)

VISCOSITY: N/D

## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

INCOMPATIBILITIES: N/D.

HAZARDOUS DECOMPOSITION PRODUCTS: N/D.

HAZARDOUS POLYMERIZATION: Will not occur.

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11. TOXICOLOGICAL INFORMATION  
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## ACUTE TOXICITY

ORAL LD50 (rat): &gt; 7,000 mg/kg

DERMAL LD50 (rabbit): &gt; 5,000 mg/kg

INHALATION LC50 (rat): &gt; 5.16 mg/l (4 hr). Nose only exposure at maximum attainable concentration.

CORROSIVENESS: N/D

DERMAL IRRITATION: Produced slight redness in several animals at site of application. Effects disappeared within 24 hours after treatment. Not classified as a skin irritant.

OCULAR IRRITATION: Slight, transient conjunctival irritation was observed in all rabbits. All effects disappeared by 72 hours after treatment. Not classified as an eye irritant.

DERMAL SENSITIZATION: Product is not classified as a skin sensitizer in guinea pigs.

SPECIAL TARGET ORGAN EFFECTS: N/D. In repeat dose oral studies with AVG, transient liver, kidney, and immunosuppression effects were observed. These reversible effects were only observed at high doses that produced general toxicity in the animals. In long-term studies, decreased weight and histopathological changes in the testes were observed in rats.

CARCINOGENICITY INFORMATION: N/D. In long-term studies with AVG, no evidence of carcinogenicity (oncogenic response) was found in rats. No evidence of genotoxic potential indicated following a battery of in vivo and in vitro mutagenicity tests.

12. ECOLOGICAL INFORMATION  
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This product is moderately toxic to avian species and exposure to birds should be avoided.

13. DISPOSAL CONSIDERATIONS  
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WASTE DISPOSAL METHODS: Dispose of product in accordance with federal, state, and local regulations.

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14. TRANSPORTATION INFORMATION

DOT STATUS: Not Regulated

PROPER SHIPPING NAME: N/D

HAZARD CLASS: N/D

UN NUMBER: N/D

PACKING GROUP: N/D

REPORTABLE QUANTITY: N/D

IATA/ICAO STATUS: Not Regulated

PROPER SHIPPING NAME: N/D

HAZARD CLASS: N/D

UN NUMBER: N/D

PACKING GROUP: N/D

REPORTABLE QUANTITY: N/D

IMO STATUS: Not Regulated

PROPER SHIPPING NAME: N/D

HAZARD CLASS: N/D

UN NUMBER: N/D

PACKING GROUP: N/D

REPORTABLE QUANTITY: N/D

FLASH POINT: N/D

15. REGULATORY INFORMATION

TSCA STATUS: EXEMPT

RCRA STATUS: N/D

CERCLA STATUS: N/D

PROP 65 (CA): N/D

SARA STATUS: N/D

16. OTHER INFORMATION

REASON FOR ISSUE	New MSDS
APPROVAL DATE	07/19/2005
SUPERSEDES DATE	NA
MSDS Number	BIO-0348
Revision Number	0

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16. OTHER INFORMATION, continued  
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LEGEND: N/A = Not Applicable  
N/D = Not Determined  
N/L = Not Listed  
L = Listed  
C = Ceiling  
S = Short-term  
® = Registered Trademark of Valent BioSciences  
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