

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **ARDENT 0.15 EC MITICIDE/INSECTICIDE** Product No.: A8612A

EPA Signal Word: Warning

Active Ingredient(%): Abamectin (2.0%) CAS No.: 65195-56-4 & 65195-55-3

Chemical Name: A mixture of avermectins containing primarily Avermectin B1a and Avermectin B1b

Chemical Class: Glycoside Insecticide

EPA Registration Number(s): 100-896 **Section(s) Revised: 9**

2. HAZARDS IDENTIFICATION
Health and Environmental

Toxic if swallowed. Harmful if inhaled or in contact with skin. Irritating to eyes and skin. May cause respiratory tract irritation. May cause an allergic skin reaction. Vapors may cause drowsiness and dizziness. May be harmful if swallowed and enters airway.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: Yellow to red brown liquid

Odor: Not determined

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Mineral Oil	Not Established	5 mg/m ³ TWA	Not Established	No
Butylated Hydroxytoluene (BHT)	Not Established	2 mg/m ³ TWA (inhalable)	10 mg/m ³ TWA **	IARC Group 3
n-Methylpyrrolidone (< 30%)	Not Established	Not Established	10 ppm TWA, Skin *****	No
Abamectin (2.0%)	Not Established	Not Established	0.02 mg/m ³ TWA ***	No

** recommended by NIOSH

*** Syngenta Occupational Exposure Limit (OEL)

***** Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: D, S

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion:** If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact:** If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation:** If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Recommendations for Medical Treatment for Abamectin Acute Toxicity: Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of the technical product can be minimized by vomiting within one-half hour of exposure; rapidly after exposure (< 15 minutes) administer repeatedly medical charcoal in a large quantity of water or ipecac. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	161°F	
Flammable Limits (% in Air):	Lower: Not Applicable	Upper: Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Combustible liquid	

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use appropriate extinguishing media for combustibles in the area. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause

environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate or butyl rubber), coveralls, socks and chemical-resistant footwear.
- Inhalation: A combination particulate/ organic vapor respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with an HE prefilter.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Yellow to red brown liquid
- Odor: Not determined
- Melting Point: Not Applicable
- Boiling Point: Not Available
- Specific Gravity/Density: 0.94 - 0.98 g/ml
- pH: 2.6 - 3.6 (1% in deionized water)

Solubility in H₂O

Abamectin: 0.007 - 0.01 mg/l @ 68°F (20°C)

Vapor Pressure

Abamectin: 7.5 x 10⁽⁻⁸⁾ mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: None known.
- Materials to Avoid: None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	Oral (LD50 Rat) :	300 mg/kg body weight
Dermal:	Dermal (LD50 Rabbit) :	> 1800 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	3.5 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Moderately Irritating (Rabbit)	
Skin Sensitization:	Sensitizing (Guinea Pig)	

Reproductive/Developmental Effects

Abamectin: Reproductive toxin in animal studies only at doses acutely toxic to the maternal animal.

Chronic/Subchronic Toxicity Studies

Abamectin: Central nervous system effects in animals.

Carcinogenicity

Abamectin: None observed.

Other Toxicity Information

None

Toxicity of Other Components

Butylated Hydroxytoluene (BHT)

Listed as an IARC (Group 3) carcinogen not classifiable as human (no data available) with limited animal evidence. Exposure may result in irritation to eyes, skin and respiratory tract. Ingestion may cause diarrhea, respiratory depression, tremors, and chronic pulmonary edema or congestion and hemorrhage.

Mineral Oil

May cause respiratory irritation when inhaled as a mist.

n-Methylpyrrolidone (< 30%)

Harmful if absorbed through the skin. May cause respiratory tract irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.
Possible developmental hazard.

Target Organs

Active Ingredients

Abamectin: Skin, eye, CNS

Inert Ingredients

Butylated Hydroxytoluene (BHT): Eye, skin, respiratory tract

Mineral Oil: Respiratory tract

n-Methylpyrrolidone: Eye, skin

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Abamectin:

Fish (Rainbow Trout) 96-hour LC50 3.6 ppb

Bird (Bobwhite Quail) LD50 Oral > 2000 mg/kg

Invertebrate (Water Flea) 48-hour EC50 0.34 ppb
Green Algae 9-day EC50 > 100 ppm
Bee (Contact) 48-hour LD50 0.41 ug/bee

Environmental Fate

Abamectin:

The information presented here is for the active ingredient, abamectin.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Low mobility in soil. Mixes in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin solution)

Hazard Class: Class 6.1

Identification Number: UN 2902

Packing Group: PG III

Comments

Water Transport - International

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin solution), Marine Pollutant

Hazard Class: Class 6.1

Identification Number: UN 2902

Packing Group: PG III

Air Transport

Proper Shipping Name: Pesticides, Liquid, Toxic, N.O.S. (Abamectin solution)

Hazard Class: Class 6.1

Identification Number: UN 2902

Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Section 313 Toxic Chemicals: n-Methylpyrrolidone (< 30%) (CAS No. 872-50-4)

California Proposition 65

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

CERCLA/SARA 304 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 2
Instability: 0

HMIS Hazard Ratings

Health: 2
Flammability: 2
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 5/16/2005

Revision Date: 6/15/2012

Replaces: 2/10/2011

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS