

MATERIAL SAFETY DATA SHEET

ABBA™ 0.15 EC

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1. IDENTIFICATION

Product name: **ABBA™ 0.15 EC**
 Chemical name of active ingredient(s): Abamectin: Mixture of avermectins comprising mainly Avermectin B1a
 Manufacturer: Makhteshim Agan of North America, Inc.
 4515 Falls of Neuse Road, Suite 300
 Raleigh, NC 27609
 Phone: 919-256-9300
 For fire, spill, and/or leak emergencies, contact Chemtrec: Phone: 1-800-535-5053
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Abamectin	71751-41-2	1.9	NA	NA	0.2 mg/m ³ (TWA)	NA
BHT (Butylated hydroxytoluene)	128-37-0	1.2	10 mg/m ³	2 mg/m ³	-	IARC Group 3*
n-Methyl pyrrolidone	872-50-4	<25	NA	NA	10 ppm (TWA)	NA

*IARC Group 3 - The agent (mixture, or exposure circumstance) is unclassifiable as to carcinogenicity to humans.
 NA=not available

3. HAZARDS IDENTIFICATIONS

PHYSICAL PROPERTIES

Appearance: Straw-Amber liquid
 Odor: None

EMERGENCY OVERVIEW: WARNING. Hazards to humans and domestic animals. May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get into eyes. Harmful if absorbed through skin or inhaled. Avoid contact with skin or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing, or using tobacco. Remove and wash contaminated clothing before reuse.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include, but are not limited to, carbon monoxide and carbon dioxide. This product is a NFPA class IIIB Liquid.

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin, eye contact and ingestion.

SYMPTOMS OF EXPOSURE: May irritate upper respiratory tract if inhaled. Causes substantial but temporary eye injury. May be fatal if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. Prolonged or repeated exposure may cause skin irritation in some individuals.

PHYSICAL OR CHEMICAL HAZARDS: Do not use or store near heat or open flame.

4. FIRST AID MEASURES

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person drink a glass of water or two if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none"> • 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.

	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing.
	<ul style="list-style-type: none"> • Rinse skin immediately with plenty of soap and water for 15-20 minutes.
	<ul style="list-style-type: none"> • Call a poison control center or doctor for treatment advice if irritation persists.
IF INHALED:	<ul style="list-style-type: none"> • 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 a poison control center or doctor for further treatment advice.
Note to physician:	
<ul style="list-style-type: none"> • Early signs of intoxication include mydriasis (dilate pupils), ataxia (unsteadiness), and muscle tremors. Toxicity follows accidental ingestion and can be minimized by promptly administering activated charcoal. • 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 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. 	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.	

5. FIRE FIGHTING MEASURES

FLASH POINT: >230° F (110° C)(PMCC)

FLAMMABLE LIMITS:

LFL/UFL: Not applicable

EXTINGUISHING MEDIA: Foam, CO₂, dry chemical.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Thermal decomposition products may include, but are not limited to, carbon monoxide and carbon dioxide. This product is a NFPA class IIIB Liquid.

FIRE-FIGHTING PROCEDURES: Use positive-pressure, self-contained breathing apparatus and full protective clothing. Evacuate non-essential personnel from area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Clean up small spills immediately, use proper personal protection. Absorb spill with absorbent material such as pet litter. After removal, flush contaminated area thoroughly with water containing a strong detergent. Sweep up and place in a chemical container. Seal the container and handle in an approved manner. Keep spills out of streams and domestic water supplies. Dike to prevent contamination of local water sources. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Dispose of all waste and rinsate in the appropriate manner.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Keep container closed when not in use. Handle and open container in a manner as to prevent spillage. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Do not reuse empty container.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in a tightly closed container in a cool, dry place. Do not contaminate water, food or feed by storage or disposal.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

EYE PROTECTION: Protective eyewear (e.g., goggles or full-face shield).

SKIN PROTECTION: Coveralls over long- or short-sleeved shirt and long or short pants, chemical-resistant footwear plus socks and head covering (for overhead exposure). Chemical-resistant apron when cleaning equipment, mixing or loading.

HAND PROTECTION: Chemical-resistant gloves, such as barrier laminate or butyl rubber ≥ 14 mils.

RESPIRATOR REQUIREMENTS: In areas with inadequate ventilation a NIOSH-approved chemical cartridge respirator with organic vapor cartridges and pesticide pre-cartridges or a self-contained breathing apparatus may be required when working with this product.

ADDITIONAL PROTECTIVE MEASURES: Discarded 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 and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EXPOSURE GUIDELINES: Refer to Section 2.

ENGINEERING CONTROLS: Refer to product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Appearance: Straw-Amber liquid

Odor: None

FLASH POINT: $>230^{\circ}$ F (110° C)

pH: 5.1 @ 25° C

BOILING POINT: N/A

MELTING POINT: N/A

SOLUBILITY IN H₂O: Miscible

SPECIFIC GRAVITY: 0.98

VAPOR PRESSURE: 7.5×10^{-8} @ 25° C

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal use and storage conditions.

MATERIALS TO AVOID: None known.

HAZARDOUS POLYMERIZATION: Will not occur.

INSTABILITY CONDITIONS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products may include, but are not limited to, carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD₅₀ (Rat): 416 mg/kg

Acute Dermal LD₅₀ (Rat): 2,000-5,000 mg/kg (females); $>5,000$ mg/kg (males)

Acute Inhalation LC₅₀ (Rat): >2.13 mg/L

Eye Irritation (Rabbit): Moderately irritating.
Dermal Irritation (Rabbit): Slightly irritating.
Dermal Sensitization (Guinea Pig): Not a skin sensitizer

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and wildlife. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target areas. Do not contaminate water when disposing of equipment wash water or rinsate. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

ECOLOGICAL EFFECTS (Abamectin):

Rainbow Trout 96-hour LC₅₀: 4.3 µg/L
Daphnia magna 48-hour LC₅₀: 0.47 µg/L

13. DISPOSAL CONSIDERATIONS

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

PRODUCT DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION**DOT CLASSIFICATION:**

UN2902, Pesticides, liquid, toxic, N.O.S. (abamectin), 6.1, PG III

NOTE: Combination packages with inner packages less than 4 liters (1.057 gallons) may be reclassified as a Consumer Commodity (ORM-D). These packages cannot be shipped by air freight.

NOTE: Consumer Commodity (ORM-D) classification is for domestic surface/ground shipments only (4x1-gallon and 4x1-quart packages). Air shipments remain regulated.

INTERNATIONAL TRANSPORTATION

IMO (vessel): UN2902, Pesticides, liquid, toxic, N.O.S. (abamectin), 6.1, PG III, Marine pollutant

IATA (air): UN2902, Pesticides, liquid, toxic, N.O.S. (abamectin), 6.1, PG III

15. REGULATORY INFORMATION**SARA TITLE III CLASSIFICATION:**

Section 302: Not applicable.
Section 311/312: Acute health hazard (immediate)
Delayed health hazard (chronic)
Section 313: Abamectin (1.9%) CAS#: 71751-41-2
n-Methylpyrrolidone (<25%) CAS#: 872-50-4

CA PROPOSITION 65: n-Methylpyrrolidone (Code D)

CERCLA RQ: Not applicable

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

HAZARD RATINGS **NFPA** **HMIS**

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HEALTH:	2	2	0	MINIMAL
FLAMMABILITY:	1	1	1	SLIGHT
REACTIVITY:	0	0	2	MODERATE
			3	HIGH
			4	SEVERE

MSDS DATE: 10-20-08. Supercedes versions dated 7-16-08 and 1-16-06; changes made to Sections 13.

The information herein is given in good faith, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.