



Safety Data Sheet

Issue Date: 20-Oct-2008

Revision Date: 01-Jul-2014

Version 1

1. IDENTIFICATION

Product Identifier

Product Name ABBA 0.15EC

Other means of identification

SDS # ADAMA-020

Registration Number(s) EPA Reg. No. 66222-139
UN/ID No UN2902

Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

Details of the supplier of the safety data sheet

Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604

Emergency Telephone Number

Company Phone Number 1-919-256-9300
Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Straw-amber liquid

Physical State Liquid

Odor None

Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1

Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

Signal Word

Danger

Hazard Statements

Toxic if swallowed

Toxic if inhaled

Causes skin irritation

Causes serious eye irritation

May cause cancer

May damage fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Wear eye/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Hexyl alcohol	111-27-3	20.18-21.42
N-methyl-2-pyrrolidone	872-50-4	19-21
Abamectin	71751-41-2	1.8-2.0
2, 6-di-tert-butyl-4-methylphenol	128-37-0	1.14-1.26

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

General Advice	If exposed or concerned: Get medical advice/attention. When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. If breathing has stopped, call 911, give artificial respiration. Call a POISON CENTER or doctor/physician.
Ingestion	IF SWALLOWED: call a poison control center or physician immediately. Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms	Causes skin irritation. Causes serious eye irritation. May be harmful in contact with skin. May cause respiratory irritation. May cause drowsiness or dizziness. May cause gastrointestinal disturbance. Nausea. Vomiting.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

Hazardous Combustion Products Combustion products include but are not limited to carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Prevent human exposure to fire, fumes, smoke and products of combustion. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- Personal Precautions** Use personal protection recommended in Section 8. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
- Environmental Precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

- Methods for Containment** Prevent further leakage or spillage if safe to do so.
- Methods for Clean-Up** Contain and collect with an inert absorbent and place into an appropriate container for disposal. Clean the floor with detergent and water. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Precautions for safe handling

- Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment.

Conditions for safe storage, including any incompatibilities

- Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep/store only in original container. Store at ambient conditions. Store locked up.
- Incompatible Materials** None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2, 6-di-tert-butyl-4-methylphenol 128-37-0	TWA: 2 mg/m ³ inhalable fraction and vapor	(vacated) TWA: 10 mg/m ³	TWA: 10 mg/m ³

Appropriate engineering controls

Engineering Controls

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 OF END USE PRODUCTS CONTAINING THIS MATERIAL, CONSULT THE SDS OR PRODUCT LABEL FOR THE END USE PRODUCT.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Protective eyewear (e.g. goggles or full-face shield).

Skin and Body Protection

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

Respiratory Protection

Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation wear respiratory protection.

General Hygiene Considerations

Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	None
Appearance	Straw-amber liquid	Odor Threshold	Not determined
Color	Straw-amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.1	@ 25°C
Melting Point/Freezing Point	Not available	
Boiling Point/Boiling Range	Not available	
Flash Point	> 110 °C / > 230 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	7.5x10 ⁻⁸	@ 25 C
Vapor Density	Not determined	
Specific Gravity	0.98	
Water Solubility	Miscible in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Bulk Density	0.987 g/ml	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.**Conditions to Avoid**

Keep out of reach of children.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

Thermal decomposition may produce the following: Carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information****Eye Contact** Causes serious eye irritation.**Skin Contact** Causes skin irritation.**Inhalation** Toxic if inhaled.**Ingestion** Toxic if swallowed.**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hexyl alcohol 111-27-3	= 720 mg/kg (Rat)	= 1500 mg/kg (Rabbit)	> 21 mg/L (Rat) 1 h
N-methyl-2-pyrrolidone 872-50-4	= 3598 mg/kg (Rat)	= 8 g/kg (Rabbit)	= 3.1 mg/L (Rat) 4 h
Propylene Glycol 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-
Abamectin 71751-41-2	28.47 mg/kg	200-2000 mg/kg	0.055-0.21 mg/l
2, 6-di-tert-butyl-4-methylphenol 128-37-0	= 890 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects**Symptoms** Please see section 4 of this SDS for symptoms.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Carcinogenicity** May cause cancer.

Chemical Name	ACGIH	IARC	NTP	OSHA
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Abamectin 71751-41-2		Group 2A		X
2, 6-di-tert-butyl-4-methylphenol 128-37-0		Group 3		

LegendIARC (*International Agency for Research on Cancer*)Group 2A - *Probably Carcinogenic to Humans*Group 3 IARC components are "*not classifiable as human carcinogens*"OSHA (*Occupational Safety and Health Administration of the US Department of Labor*)

X - Present

Reproductive toxicity May damage fertility or the unborn child.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects. 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.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Hexyl alcohol 111-27-3		89.7 - 106: 96 h Pimephales promelas mg/L LC50 flow-through 144: 96 h Brachydanio rerio mg/L LC50 static	EC50 = 27.5 mg/L 30 min EC50 = 300.4 mg/L 48 h	201: 24 h Daphnia magna mg/L EC50
N-methyl-2-pyrrolidone 872-50-4	500: 72 h Desmodesmus subspicatus mg/L EC50	832: 96 h Lepomis macrochirus mg/L LC50 static 1072: 96 h Pimephales promelas mg/L LC50 static 1400: 96 h Poecilia reticulata mg/L LC50 static		4897: 48 h Daphnia magna mg/L EC50
Propylene Glycol 57-55-6	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50		10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static
Abamectin 71751-41-2		Rainbow Trout LC50: 4.3 µg/l		Daphnia Magna LC50: 0.47 µg/l

2, 6-di-tert-butyl-4-methylphenol 128-37-0	6: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.42: 72 h Desmodesmus subspicatus mg/L EC50	5: 48 h Oryzias latipes mg/L LC50		
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Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Hexyl alcohol 111-27-3	2.03
N-methyl-2-pyrrolidone 872-50-4	-0.46
2, 6-di-tert-butyl-4-methylphenol 128-37-0	4.17

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Abamectin 71751-41-2	Toxic

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances. Based on package size, product may be eligible for limited quantity exception.

DOT

UN/ID No	UN2902
Proper Shipping Name	Pesticides, liquid, toxic, N.O.S. (abamectin)
Hazard Class	6.1

Packing Group III

IATA

UN/ID No UN2902
Proper Shipping Name Pesticides, liquid, toxic, N.O.S. (abamectin)
Hazard Class 6.1
Packing Group III
Description Marine Pollutant

IMDG

UN/ID No UN2902
Proper Shipping Name Pesticides, liquid, toxic, N.O.S. (abamectin)
Hazard Class 6.1
Packing Group III
Marine Pollutant This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories

TSCA All ingredients are listed or exempt from listing on Chemical Substance Inventory

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
N-methyl-2-pyrrolidone - 872-50-4	872-50-4	19-21	1.0
Abamectin - 71751-41-2	71751-41-2	1.8-2.0	1.0

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
N-methyl-2-pyrrolidone - 872-50-4	Developmental
Abamectin - 71751-41-2	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Hexyl alcohol 111-27-3	X		X
N-methyl-2-pyrrolidone 872-50-4	X	X	X
Propylene Glycol 57-55-6	X		X
Abamectin 71751-41-2	X		
2, 6-di-tert-butyl-4-methylphenol 128-37-0	X	X	X

EPA Pesticide Registration Number 66222-139**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Signal Word: Warning

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if inhaled or absorbed with the skin. Avoid contact with skin or clothing. Avoid breathing spray mist or contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Difference between SDS and EPA pesticide label

	EPA	OSHA
Signal Word	Warning	Danger
Acute toxicity - Oral	May be fatal if swallowed	Toxic if swallowed
Acute toxicity - Dermal	Harmful if absorbed with the skin	May be harmful in contact with skin
Acute toxicity - Inhalation (Vapors)	Harmful if inhaled	Toxic if inhaled
Skin corrosion/irritation	N/A	Causes skin irritation
Serious eye damage/eye irritation	Causes substantial but temporary eye injury	Causes serious eye irritation
Carcinogenicity	N/A	May cause cancer
Reproductive toxicity	N/A	May damage fertility or the unborn child
STOT - single exposure	N/A	May cause respiratory irritation. May cause drowsiness or dizziness
STOT - repeated exposure	N/A	Causes damage to organs through prolonged or repeated exposure

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	2	1	0	Not determined
<u>HMIS</u>	Health Hazards	Flammability	Physical Hazards	Personal Protection
	2	1	0	Not determined

Issue Date: 20-Oct-2008
Revision Date: 01-Jul-2014
Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet