



Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** ALOFT™ LC SC INSECTICIDE  
**EPA REGISTRATION NUMBER(S):** 66330-366  
**SYNONYM(S):** ARY044415 SC, Clothianidin – Bifenthrin SC

<u>COMPANY</u>	<u>EMERGENCY TELEPHONE NUMBERS</u>	
Arysta LifeScience North America LLC 15401 Weston Parkway, Suite 150 Cary, NC 27513	HEALTH EMERGENCY: <b>1-866-303-6952, or 1-651-632-8946</b>	SPILL EMERGENCY: <b>1-800-424-9300, or 1-703-527-3887</b>

**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits	% Weight	% Volume
Bifenthrin: 2-methylbiphenyl-3-ylmethyl (Z)- (1RS,3RS)-3-(2-chloro-3,3,3- trifluoroprop-1-enyl)2,2- dimethylcyclopropanecarboxylate	82657-04-3	<u>TWA</u> <sup>a</sup> OSHA PEL <sup>b</sup> : None ACGIH TLV <sup>c</sup> : None NIOSH REL <sup>d</sup> : None	12.30	NDA
Clothianidin: (E)-1-(2-chloro-1,3-thiazol-5- ylmethyl)-3-methyl-2- nitroguanidine	210880-92-5	<u>TWA</u> <sup>a</sup> OSHA PEL <sup>b</sup> : None ACGIH TLV <sup>c</sup> : None NIOSH REL <sup>d</sup> : None	24.70	NDA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

\*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

<sup>a</sup>**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

<sup>b</sup>**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

<sup>c</sup>**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

<sup>d</sup>**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.

**SECTION 3: HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

**WARNING:**

- **MAY BE FATAL IF SWALLOWED**
- **HARMFUL IF INHALED**
- **WEAR: LONG-SLEEVED SHIRT AND LONG PANTS, SOCKS, SHOES, AND CHEMICAL-RESISTANT GLOVES**
- **AVOID BREATHING SPRAY MIST**

**Acute Health Hazards**

**Eye:** Slight to moderate eye irritation can be expected. The degree of injury will depend upon the amount and duration of contact, and the speed and thoroughness of the first aid treatment.

**Skin:** Slight skin irritation can be expected. The degree of irritation will depend upon the speed and thoroughness of the first aid treatment. The product is a potential skin sensitizer.

**Ingestion:** May be fatal if swallowed. The degree of injury will depend upon the amount and duration of exposure, and the speed and thoroughness of the first aid received.

**Inhalation:** Inhalation of this product may cause respiratory irritation. Short-term inhalation is not expected to be toxic. The degree of irritation will depend upon the amount and duration of exposure, and the speed and thoroughness of the first aid treatment received.

**Chronic Health Hazards (Including Cancer):** Clothianidin is classified as a “not likely” human carcinogen. The EPA has classified Bifenthrin as a class C carcinogen, a possible human carcinogen.

**Teratology (Birth Defects) Information:** Bifenthrin did not demonstrate any teratogenic effects in a two-generational study in rats.

**Mutagenicity:** The active ingredient Clothianidin has shown no mutagenic activity in laboratory studies on animals. Evidence of mutagenic effects from exposure to Bifenthrin is inconclusive.

**SECTION 4: FIRST AID MEASURES**

**Eyes:** 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. Call a poison control center or doctor for treatment advice.

**Skin:** Take off contaminated clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco. Call a poison control center or doctor for treatment advice.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water 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.

**Inhalation:** Move person to fresh air. If person is not breathing, call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.

**Note to Physician:** Treatment is symptomatic and supportive. Contact with Bifenthrin may produce skin sensations such as numbing, burning, and tingling that are reversible and usually subside in 12 hours. If significant quantities have been swallowed, promptly eliminate the ingested quantities from the stomach and intestines. Alcohol, milk, cream, and other digestible fats and oils should NOT be administered as they may increase absorption.

## SECTION 5: FIRE FIGHTING MEASURES

<b>Flammable Limits in Air (% by volume):</b>		
	<b>Upper:</b>	NA
	<b>Lower:</b>	NA
<b>Flash Point:</b>		
	<b>Method Used:</b>	NA
<b>Autoignition Temperature:</b>		
<b>LEL/UEL:</b>		
<b>NFPA Hazard Classification:</b>		
	<b>Health:</b>	2
	<b>Flammability:</b>	1
	<b>Reactivity:</b>	0
	<b>Other:</b>	None
<b>Extinguishing Media:</b>		
Chemical foam, dry chemical and CO <sub>2</sub> are suitable		
<b>Special Fire Fighting Procedures:</b>		
For small fires, use foam, CO <sub>2</sub> , or dry powder extinguishant. For large fires, use foam or water-fog. Avoid use of water jet. Contain run-off water with temporary earthen barriers. An SCBA and suitable protective clothing should be worn in fire conditions.		
<b>Hazardous Combustion Products:</b>		
In the event of fire, may emit toxic gases.		

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### EMERGENCY PHONE NUMBERS

**Exposure Calls (PROSAR): 1-866-303-6952 or 1-651-632-8946 (International)**

**Spill Calls (CHEMTREC): 1-800-424-9300 or 1-703-527-3887**

Ensure suitable personal protection during removal of spillage by wearing a facemask that gives protection against toxic dusts, eye protections, chemically resistant gloves, boots and coveralls. Avoid runoff into storm sewers or other bodies of water. Clean up spill immediately. Cover spillage with moist sand, soil or sawdust. Transfer to a container for disposal. Wash the spillage area with water. Washings must be prevented from entering surface water drains. This material is very toxic to fish. Spillage or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body. Remove contaminated water for removal or treatment.

## SECTION 7: HANDLING AND STORAGE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Avoid contact with skin and eyes. Do not breathe dust. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking. Keep in original containers, tightly closed, out of reach of children. Keep away from food, drink, and animal feeding stuffs. Keep away from frost. This product is physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Eye Protection:** Wear suitable eye protection such as chemical goggles.

**Respiratory/Ventilation Requirements:** Respiratory protection equipment must be approved for use with pesticides.

**Skin Protection:** Rubber gloves, cap, coveralls, apron, protective eyewear, and boots as necessary to protect skin.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Off-white viscous liquid
<b>Odor:</b>	No appreciable odor
<b>Physical State:</b>	Liquid
<b>pH:</b>	6.6 – 7.6
<b>Boiling Point:</b>	212 °F
<b>Melting Point:</b>	NDA
<b>Freezing Point:</b>	NDA
<b>Vapor Pressure:</b>	NDA
<b>Vapor Density:</b>	NDA
<b>Bulk Density:</b>	9.2 lbs/gallon
<b>Specific Gravity:</b>	1.103 g/mL
<b>Evaporation Rate:</b>	NDA
<b>Solubility in Water:</b>	Dispersible
<b>Percent Solids by Weight:</b>	NDA
<b>Partition Coefficient:</b>	NDA
<b>Percent Volatile:</b>	NDA
<b>Volatile Organic Compounds:</b>	NDA
<b>Molecular Weight:</b>	249.7 (Clothianidin); 422.9 (Bifenthrin)
<b>Viscosity:</b>	NDA

## SECTION 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable, however may decompose if heated.
<b>Storage Stability:</b>	NDA
<b>Hazardous Polymerization:</b>	Product will not undergo polymerization
<b>Flash Point:</b>	> 93 °C
<b>Flammable Point:</b>	NDA
<b>Auto Ignition:</b>	NDA
<b>Dust Explodability:</b>	NA
<b>Incompatibility With Other Materials:</b>	NDA
<b>Hazardous Decomposition Products:</b>	NDA

## SECTION 11: TOXICOLOGICAL INFORMATION

**Acute:**

**Eye Irritation:** Slight to moderate

**Skin Irritation:** Slight irritation

**Skin Sensitization:** Not a contact sensitizer

**Dermal Toxicity:** LD<sub>50</sub> (rats) > 5,000 mg/kg

**Oral Toxicity:** LD<sub>50</sub> (female rat) = 310 mg/kg

**Inhalation Toxicity:** LC<sub>50</sub> (male rats, 4-hour) = > 2.04 mg/L

**Chronic Health Hazards (Including Cancer):** Clothianidin is classified as a “not likely” human carcinogen. The EPA has classified Bifenthrin as a class C carcinogen, a possible human carcinogen.

**Teratology (Birth Defects) Information:** Bifenthrin did not demonstrate any teratogenic effects in a two-generational study in rats.

**Mutagenicity:** The active ingredient Clothianidin has shown no mutagenic activity in laboratory studies on animals. Evidence of mutagenic effects from exposure to Bifenthrin is inconclusive.

## SECTION 12: ECOLOGICAL INFORMATION

### Environmental Summary:

This product is extremely toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

### Avian Toxicity:

#### Clothianidin

Northern bobwhite ( <i>C. virginianus</i> )	Oral LD <sub>50</sub> > 2,000 mg a.i./kg b.w.
Japanese quail ( <i>C. coturnix japonica</i> )	Oral LD <sub>50</sub> = 430 mg a.i./kg b.w.
Northern bobwhite ( <i>C. virginianus</i> )	Diet LC <sub>50</sub> > 5,230 ppm diet
Mallard duck ( <i>A. platyrhinchus</i> )	Diet LC <sub>50</sub> > 5,040 ppm diet

#### Bifenthrin

Northern bobwhite ( <i>C. virginianus</i> )	Oral LD <sub>50</sub> = 1,800 mg a.i./kg b.w.
Mallard duck ( <i>A. platyrhinchus</i> )	Oral LD <sub>50</sub> = 2,150 mg a.i./kg b.w.

### Aquatic Organism Toxicity:

#### Clothianidin

Water flea ( <i>D. magna</i> )	48 hr EC <sub>50</sub> = 100.8 – 119 ppm
Rainbow Trout	96 hr LC <sub>50</sub> = 105 ppm
Bluegill Sunfish	96 hr LC <sub>50</sub> = 117 ppm

#### Bifenthrin

Water flea ( <i>D. magna</i> )	48 hr EC <sub>50</sub> = 0.0016 mg a.i./L
Rainbow Trout	96 hr LC <sub>50</sub> = 0.00015 mg a.i./L
Bluegill Sunfish	96 hr LC <sub>50</sub> = 0.00035 mg a.i./L

### Other Non-Target Organism Toxicity:

#### Clothianidin

Earthworm ( <i>E. fetida</i> )	7 day LC <sub>50</sub> = 19 mg a.i./kg dry soil
Honeybee ( <i>A. mellifera</i> L.)	48 hr contact LD <sub>50</sub> = 0.044 micrograms a.i./bee

#### Bifenthrin

Honeybee ( <i>A. mellifera</i> L.)	48 hr contact LD <sub>50</sub> = 0.01462 ug/bee
Honeybee ( <i>A. mellifera</i> L.)	48 hr oral LD <sub>50</sub> = 0.1 micrograms a.i./bee

## SECTION 13: DISPOSAL CONSIDERATIONS

End users must dispose of any unused product as per the label recommendations and in accordance with all applicable laws and regulations. Check governmental regulations and local authorities for approved disposal of this material.

## SECTION 14: TRANSPORT INFORMATION

EMERGENCY TELEPHONE #: 1-866-303-6952 or 1-651-632-8946

MSDS Number: 00345

Issue Date: 5/12/09

NDA = No Data Available

NA = Not Applicable

<b>D.O.T. Shipping Name:</b>	Pyrethroid Pesticide, Liquid Toxic
<b>Technical Shipping Name:</b>	Bifenthrin
<b>Packing Group:</b>	III
<b>D.O.T. Hazard Class:</b>	6.1
<b>U.N/N.A. Number:</b>	UN3352
<b>Product RQ (lbs):</b>	NA
<b>D.O.T. Label:</b>	6.1
<b>D.O.T. Placard:</b>	6.1
<b>Marine Pollutant:</b>	YES

For shipment by water, describe as: UN3352, PYRETHROID PESTICIDE, LIQUID TOXIC, 6.1, PG III, MARINE POLLUTANT.

## SECTION 15: REGULATORY INFORMATION

### U.S Federal Regulations

**FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act):** All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**CERCLA (Comprehensive Response Compensation, and Liability Act):** NA

**EPCRA (Emergency Planning and Community Right-to-Know Act) Section 313:** Yes

**OSHA (Occupational Safety and Health Administration):** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

**RCRA (Resource Conservation and Recovery Act):** NA

**SARA Title III (SUPERFUND Amendments and Reauthorization Act):**

Section 302 (EHS) TPQ: NONE

Section 304 (EHS) RQ: NONE

Section 311/312 CATEGORIES

1. Immediate (Acute) Health Effects; **YES**
2. Delayed (Chronic) Health Effect; **YES**
3. Fire Hazard; **NO**
4. Sudden Release of Pressure Hazard; **NO**
5. Reactivity Hazard; **NO**

**TSCA (Toxic Substance Control Act):** This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

**State Regulations:** Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities.

### International Regulations:

**Classification:** NDA

**Risk Phrases:** NDA

**Safety Phrases:** NDA

**SECTION 16: OTHER INFORMATION**

<b>Reason for issue:</b>	Changes to Ecological Information (Section 12)
<b>Prepared by:</b>	Ashley R. Brown
<b>Issue date:</b>	5/12/2009
<b>Supersedes date:</b>	10/22/2007
<b>MSDS number:</b>	00345

The information in this MSDS is based on data available to us as of the issue date given herein, and believed to be correct. Contact Arysta LifeScience North America LLC at (919) 678-4900 to determine if additional data and information have become available since the issue date.

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