

SAFETY DATA SHEET



Revision date: 19-May-2015

Version: 2.0

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Identifier

Material Name: ActiShield™ Liquid Insecticide

Trade Name: Not established
Chemical Family: Pyrethroid

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against Intended Use: Veterinary product used as insecticide
Restrictions on Use: Not for human use

Details of the Supplier of the Safety Data Sheet

Zoetis Inc.
100 Campus Drive, P.O. Box 651
Florham Park, New Jersey 07932 (USA)
Rocky Mountain Poison and Drug Center Phone: 1-866-531-8896
Product Support/Technical Services Phone: 1-800-366-5288

Zoetis Belgium S.A.
Mercuriusstraat 20
1930 Zaventem
Belgium

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail: VMIPSrecords@zoetis.com

Emergency telephone number:
International CHEMTREC (24 hours): +1-703-527-3887

2. HAZARDS IDENTIFICATION

Appearance: Beige liquid

Classification of the Substance or Mixture

GHS - Classification

Acute Oral Toxicity: Category 4
Acute Toxicity - Dusts and Mists: Category 4
Skin Sensitization: Category 1
Carcinogenicity: Category 2
Specific target organ systemic toxicity (single exposure): Category 2
Specific target organ systemic toxicity (repeated exposure): Category 1
Acute aquatic toxicity: Category 1
Chronic aquatic toxicity: Category 1

EU Classification:

EU Indication of danger: Harmful
Irritant
Dangerous for the Environment

EU Symbol: Xn N
EU Risk Phrases:

R40 - Limited evidence of a carcinogenic effect
R43 - May cause sensitization by skin contact.
R20/22 - Harmful by inhalation and if swallowed.
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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2. HAZARDS IDENTIFICATION

Label Elements

Signal Word:

Danger

Hazard Statements:

H371 - May cause damage to organs (central nervous system)
H372 - Causes damage to organs through prolonged or repeated exposure (central nervous system, peripheral nervous system)
H351 - Suspected of causing cancer
H317 - May cause an allergic skin reaction
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P307 + P311 - IF exposed: Call a POISON CENTRE or doctor/physician
P314 - Get medical attention/advice if you feel unwell
P302+ P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P301+ P312 - IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell
P330 - Rinse mouth
P391 - Collect spillage
P405 - Store locked up
P501 - Dispose of contents/container in accordance with all local and national regulations



Other Hazards

Short Term:

Minimal eye irritant in experimental animals

Known Clinical Effects:

Pyrethroids can cause seizures and parasthesia (i.e. stinging, burning, itching, tingling, and numbness) of the face, hands, arms, forearms, and neck which may be worsened by contact with moisture and water. Other signs and symptoms of exposure include dizziness, salivation, headache, fatigue, vomiting, diarrhea, and irritability to sound and touch. Pyrethroids may cause sensitization and allergic reactions. Effects may be immediate or delayed.
Hazardous Substance. Non-Dangerous Goods.

Australian Hazard Classification (NOHSC):

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Note: This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Ingredient	CAS Number	EU EINECS/ELINCS List	EU Classification	GHS Classification	%
Bifenthrin	82657-04-3	Not Listed	Carc.Cat.3; R40 T; R23/25 Xn; R48/22 Xi; R43 N; R50-53	Acute Tox. 2 (H300) STOT RE 1 (H372) Skin Sens. 1B (H317) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Carc. 2 (H351) Acute Tox. 3 (H331)	7.9
Propylene glycol	57-55-6	200-338-0	Not Listed	Not Listed	<6.2

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. For one or more ingredients, the chemical identity has been withheld as a trade secret. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the R phrases and CLP/GHS abbreviations mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of First Aid Measures

- Eye Contact:** Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.
- Skin Contact:** Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention.
- Ingestion:** Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.
- Inhalation:** Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Most Important Symptoms and Effects, Both Acute and Delayed

- Symptoms and Effects of Exposure:** For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.
- Medical Conditions Aggravated by Exposure:** None known

Indication of the Immediate Medical Attention and Special Treatment Needed

- Notes to Physician:** This material contains pyrethrin insecticides. In cases of overexposure, consult a poison control center for additional information concerning pyrethrin poisoning and treatment.

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5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish fires with CO₂, extinguishing powder, foam, or water.

Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Formation of toxic gases is possible during heating or fire.

Fire / Explosion Hazards: Fine particles (such as dust and mists) may fuel fires/explosions.

Advice for Fire-Fighters

During all fire fighting activities, wear appropriate protective equipment, including self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure. Ensure adequate ventilation. Prevent exposure by any route.

Environmental Precautions

Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Methods and Material for Containment and Cleaning Up

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly. Prevent discharge to drains.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel. Provide adequate ventilation. Contain the source of the spill or leak and shut off all electrical equipment if it is safe to do so. Collect spill with an inert, non-combustible absorbent material and transfer to labeled container for disposal. Clean spill area thoroughly with detergent and water. Prevent discharge to drains. Prevent runoff from entering waterways or sewers.

7. HANDLING AND STORAGE

Precautions for Safe Handling

When handling, use appropriate personal protective equipment (see Section 8). Minimize generating airborne mists and vapors. Use with adequate ventilation. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Prevent environmental releases. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions: Keep tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Protect from direct heat and sunlight. Store in original container. Do not store near food or feed. Keep out of reach of children.

Specific end use(s): No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Refer to available public information for specific member state Occupational Exposure Limits.

Propylene glycol

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Australia TWA	150 ppm 474 mg/m ³ 10 mg/m ³
Ireland OEL - TWAs	150 ppm 470 mg/m ³ 10 mg/m ³
Latvia OEL - TWA	7 mg/m ³
Lithuania OEL - TWA	7 mg/m ³

Exposure Controls

Engineering Controls:

Engineering controls should be used as the primary means to control exposures. Keep airborne contamination levels below the exposure limits listed above in this section.

Personal Protective Equipment:

Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

Hands:

Wear impervious gloves as minimum protection.

Eyes:

Safety glasses or goggles

Skin:

Wear impervious protective clothing to prevent skin contact - consider use of disposable clothing where appropriate.

Respiratory protection:

Whenever air contamination (mist, vapor or odor) is generated, respiratory protection is recommended as a precaution to minimize exposure. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Color:	Beige
Odor:	Slight	Odor Threshold:	No data available.
Molecular Formula:	Mixture	Molecular Weight:	Mixture
Solvent Solubility:	No data available		
Water Solubility:	Miscible:		
pH:	6.7		
Melting/Freezing Point (°C):	No data available		
Boiling Point (°C):	No data available.		
Partition Coefficient: (Method, pH, Endpoint, Value)			
Partition Coefficient: (Method, pH, Endpoint, Value)			
Bifenthrin			
Measured Log P	6.6		
Decomposition Temperature (°C):	No data available.		
Evaporation Rate (Gram/s):	No data available		
Vapor Pressure (kPa):	No data available		
Vapor Density (g/ml):	No data available		
Relative Density:	8.53 lb/gal (1024 g/L)		
Specific Gravity:	1.026		
Viscosity:	No data available		
Flammability:			
Autoignition Temperature (Solid) (°C):	No data available		
Flammability (Solids):	No data available		
Flash Point (Liquid) (°C):	>100C (212F)		
Upper Explosive Limits (Liquid) (% by Vol.):	No data available		
Lower Explosive Limits (Liquid) (% by Vol.):	No data available		

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Polymerization: Not expected to occur

10. STABILITY AND REACTIVITY

Reactivity: No data available
Chemical Stability: Stable under normal conditions of use.
Possibility of Hazardous Reactions
Oxidizing Properties: No data available
Conditions to Avoid: Keep away from excessive heat and flames.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers
Hazardous Decomposition Products: Hydrogen fluoride , fluorine , Hydrogen chloride gas , chlorine , carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

General Information: Toxicological properties of the formulation have not been fully investigated. The information in this section describes the potential hazards of the individual ingredients and the formulation.
Routes of exposure: eye contact , skin contact

Acute Toxicity: (Species, Route, End Point, Dose)

Propylene glycol

Rat Oral LD 50 22,000 mg/kg
Mouse Oral LD 50 24,900mg/kg
Rabbit Dermal LD 50 20,800mg/kg

Ingestion Acute Toxicity Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge. Bifenthrin does not cause acute delayed neurotoxicity. In humans, ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures.

Irritation / Sensitization: (Study Type, Species, Severity)

Propylene glycol

Skin Irritation Rabbit Mild
Eye Irritation Rabbit Mild

Skin Irritation / Sensitization

Experience to date indicates that contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

Chronic Effects/Carcinogenicity

In lifetime feeding studies conducted with bifenthrin in laboratory animals, a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect.

Subchronic Effects

Tremors were associated with repeated exposure of laboratory animals to bifenthrin. Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

Reproductive Effects

In studies with laboratory animals, bifenthrin did not cause reproductive toxicity or teratogenicity.

Mutagenicity

The overall absence of genotoxicity has been demonstrated in mutagenicity tests with bifenthrin.

Carcinogen Status:

None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

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11. TOXICOLOGICAL INFORMATION

Product Level Toxicity Data

Acute toxicity

Species	Route	End Point	Dose
Rat	Oral	LD50	= 632 mg/kg
Rabbit	Dermal	LD50	> 2000 mg/kg
Rat	Inhalation	LC 50	= 11.58 mg/L (1hr)

Irritation / Sensitization

Study Type	Species	Result
Eye Irritation	Unknown	Minimal
Skin Irritation	Unknown	Negative

12. ECOLOGICAL INFORMATION

Environmental Overview: Environmental properties of the formulation have not been investigated. The following information is available for the individual ingredients. The active ingredient in this formulation will bind to soil or sediment and degrade slowly. Releases to the environment should be avoided.

Toxicity:

Aquatic Toxicity Comments: Bifenthrin is highly toxic to fish and aquatic arthropods and LC50 values range from 0.0038 to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LD50 values range from 1,800 mg/kg to >2,150 mg/kg).

Persistence and Degradability:

Biodegradation: (Method, Inoculum, Biodeg Study, Result, Endpoint, Duration, Classification)

Bifenthrin

EPISuite Not Ready

Bio-accumulative Potential:

Partition Coefficient: (Method, pH, Endpoint, Value)

Bifenthrin

Measured Log P 6.6

BCF: (Method, Endpoint, Modifier, Result)

Bifenthrin

(PBT profiler) 579

Mobility in Soil: No data available

Additional Information: Bifenthrin Log Koc (EPISuite): 4.5

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13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:

Should not be released into the environment. Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

As of January 1, 2015, materials offered for transport that are classified for transportation only as Marine Pollutants and which are packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 Liters or less for liquids or having a net mass per single or inner packaging of 5 kilograms or less for solids are NOT subject to ICAO/IATA, IMDG, or ADR transport regulations provided the general packaging requirements of those regulations are met. Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375.

UN number:	UN 3082
UN proper shipping name:	Environmentally hazardous substances, liquid, n.o.s. (Bifenthrin)
Transport hazard class(es):	9
Packing group:	III
Environmental Hazard(s):	Marine Pollutant

Please refer to the applicable dangerous goods regulations for additional information. Transport according to the requirements of the appropriate regulatory body.

DOT / ANTT: Not regulated for transportation

15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

Canada - WHMIS: Classifications

WHMIS hazard class:

Class D, Division 2, Subdivision A

Class D, Division 2, Subdivision B

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.



Bifenthrin

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15. REGULATORY INFORMATION

CERCLA/SARA 313 Emission reporting	1.0 %
California Proposition 65	Not Listed
Standard for the Uniform Scheduling for Drugs and Poisons:	Schedule 6
EU EINECS/ELINCS List	Schedule 7
	Not Listed

Propylene glycol

CERCLA/SARA 313 Emission reporting	Not Listed
California Proposition 65	Not Listed
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS/ELINCS List	200-338-0

16. OTHER INFORMATION

Text of R phrases and GHS Classification abbreviations mentioned in Section 3

Acute toxicity, oral-Cat.2; H300 - Fatal if swallowed
Acute toxicity, inhalation-Cat.3; H331 - Toxic if inhaled
Specific target organ toxicity, repeated exposure-Cat.1; H372 - Causes damage to organs through prolonged or repeated exposure
Carcinogenicity-Cat.2; H351 - Suspected of causing cancer
Hazardous to the aquatic environment, acute toxicity-Cat.1; H400 - Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity-Cat.1; H410 - Very toxic to aquatic life with long lasting effects
Sensitization, skin-Cat.1; H317 - May cause an allergic skin reaction

Carcinogenic: Category 3

T - Toxic

Xn - Harmful

Xi - Irritant

N - Dangerous for the environment

R40 - Limited evidence of a carcinogenic effect

R43 - May cause sensitization by skin contact.

R23/25 - Toxic by inhalation and if swallowed.

R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Data Sources:

The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

Reasons for Revision:

Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking.
Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 4 - First Aid Measures. Updated Section 5 - Fire Fighting Measures. Updated Section 6 - Accidental Release Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection.

Prepared by:

Toxicology and Hazard Communication
Zoetis Global Risk Management

Zoetis Inc. believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

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End of Safety Data Sheet