

SDS per US OSHA Hazard Communication Standard (HazCom) 2012, 29 CFR §1910.1200

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: PFR-97® 10% ES
Product Type: Insecticide
EPA Registration No. 70051-133
Active Ingredient: *Isaria fumosorosea* Apopka strain 97
CAS No.: Not applicable

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses: For uses as detailed on the label only
Uses advised against: Any use not listed on the label

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name: Certis USA LLC
Address: Headquarters: 9145 Guilford Road, Suite 175, Columbia, Maryland 21046 USA
Phone Number: +1 (800) 847-5620 (in the US); +1 (301) 604-7340 (outside the US)
Website: <http://www.CertisBio.com>

1.4. EMERGENCY TELEPHONE NUMBER

Emergency number: +1 (800) 255-3924 (in the US); +1 (813) 248-0585 (outside the US)

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

OSHA Hazard Classification: Not classified.
Signal Word: None.
Hazard Statements: None.
Pictogram: None.
Precautionary Statements: None.

2.2. OTHER HAZARDS

Isaria fumosorosea Apopka strain 97 may have the potential to provoke sensitizing reactions.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS #	% w/w
<i>Isaria fumosorosea</i> Apopka strain 97	Not applicable	10.0

Hazardous Ingredient(s)	Classification	CAS #	% w/w
Petroleum distillates	Category 1: Aspiration hazard	Trade secret	40 – 80
Surfactant (Trade secret)	Category 1: Serious eye damage Category 2: Skin irritation	Trade secret	1 – 10

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

Treat symptomatically.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

May cause minor eye irritation.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Dry chemical, foam, carbon dioxide, water.

Unsuitable Extinguishing Media: None known.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous combustion products: None known.

5.3. ADVICE FOR FIREFIGHTERS;

Protection of Firefighters: Keep upwind of fire. Wear protective clothing and self-contained breathing apparatus. Fight fire from a safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel: Avoid substance contact. Ensure adequate ventilation. Evacuate the area and observe emergency procedures.

For emergency responders: Use appropriate personal protective equipment. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. ENVIRONMENTAL PRECAUTIONS

For terrestrial uses, 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 disposing of equipment washwater or rinsate.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Methods for Containment and Clean-Up: Caution: spillages may be slippery. For small spills, contain the spill and stop the flow. Transfer to a suitable container for disposal or recovery. Seal the container and handle in an approved manner. Reclaim material if possible.

Other Information: Dispose of in accordance with all Federal, State and local procedures.

6.4. REFERENCE TO OTHER SECTIONS

Refer to Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in original container. Store in a cool, dry place out of direct sunlight and away from heat sources. Storage at refrigerated (~39°F/4°C) temperatures does not adversely affect the product quality or stability. Do not store above 68°F (20°C). Stability decreases with time at elevated temperatures above 68°F (20°C). Tightly reclose the container of unused product. Do not contaminate unused product with water.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Substance

Isaria fumosorosea Apopka strain 97

Occupational Exposure Limits

OSHA PELs: not established

ACGIH TLVs: not established

No occupational limit assigned.

8.2. EXPOSURE CONTROLS

Wear protective equipment to comply with good occupational hygiene practice. Do not eat, drink or smoke at the workplace.

8.2.1. ENGINEERING CONTROLS:

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

8.2.2. PERSONAL PROTECTIVE EQUIPMENT:

Applicators and other handlers must wear:

RESPIRATORY PROTECTION

- NIOSH-approved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

EYE/FACE PROTECTION

- Not required.

SKIN PROTECTION

- Long-sleeved shirt
- Long pants
- Socks and shoes

8.2.3. ENVIRONMENTAL EXPOSURE CONTROLS

For terrestrial uses, 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 disposing of equipment washwater or rinsate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark brown liquid
Odor:	Petro-like
Odor Threshold:	Not determined
pH:	5.07 nominal [5.0 – 6.0] (1% solution)
Melting Point / Freezing Point:	Not applicable
Initial Boiling Point:	Not applicable
Boiling Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability (solid, gas):	Not determined
Lower & Upper Flammability Limits:	Not determined

Vapor Pressure:	Not applicable
Vapor Density (Air = 1):	Not determined
Density:	0.9 g/mL nominal [0.8 – 1.0]
Solubility:	Not determined
Partition Coefficient (n-octanol/water):	Not applicable
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Not applicable
Viscosity:	198-485 cps @ 24°C
Other relevant properties:	Not applicable

9.2. OTHER INFORMATION

Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

No known or expected hazardous reactions when handled and stored according to stated provisions.

10.2. CHEMICAL STABILITY

Chemically stable under the conditions of storage, handling and use.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

No known or expected hazardous reactions when handled and stored according to stated provisions.

10.4. CONDITIONS TO AVOID

None known or expected.

10.5. INCOMPATIBLE MATERIALS

None known or expected.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

None known or expected.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. LIKELY ROUTES OF EXPOSURE

Oral, dermal, ocular, inhalation

11.2 SYMPTOMS RELATED TO PHYSICAL, CHEMICAL, AND/OR TOXICOLOGICAL CHARACTERISTICS

May cause minor eye irritation.

Revision Date: 2021-07-20

Replaces: N/A

Reason for Revision: New product

11.3 EFFECTS (DELAYED/IMMEDIATE/CHRONIC) FROM SHORT- AND LONG-TERM EXPOSURE

See section 4.

11.4 ACUTE TOXICITY

Test	Results	US EPA Toxicity Category
Acute oral LD ₅₀	>5,000 mg/kg bw	IV
Acute dermal LD ₅₀	>5,000 mg/kg bw	IV
Acute inhalation LC ₅₀	>2.0 mg/L	IV
Eye irritation:	Minimally irritating at 24 hours	III
Skin irritation:	Nonirritating	IV
Respiratory or skin sensitization:	Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.	Not applicable

11.5 OTHER INFORMATION ON ADVERSE HEALTH EFFECTS

Carcinogenicity NTP: not listed
 IARC: not listed
 OSHA: not listed

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Species	Test	Study Duration	Conditions	Test substance	Results
Northern Bobwhite (<i>Colinus virginianus</i>)	Avian acute	5-day	Oral gavage	Strain 97	NOEL = 2,500 mg/kg/day
Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute freshwater fish	96-hour	Static	Strain 97	EC ₅₀ > 14.7 x 10 ⁸ CFU/L
Water Flea (<i>Daphnia magna</i>)	Acute freshwater invertebrate	48-hour	Static	Strain 97	EC ₅₀ > 14.7 x 10 ⁸ CFU/L
Honeybee (<i>Apis mellifera carnica</i> L)	Nontarget pollinator	48-hour	Oral Contact	20% WDG	Oral LD ₅₀ > 21.63 µg AI/bee Contact LD ₅₀ > 20.0 µg AI/bee

12.2. PERSISTENCE AND DEGRADABILITY

Isaria fumosorosea is a naturally-occurring fungus commonly found in insects and soils around the world.

12.3. BIOACCUMULATIVE POTENTIAL

Isaria fumosorosea populations are expected to decline significantly after application. *Isaria fumosorosea* is not expected to bioaccumulate.

12.4. MOBILITY IN SOIL

Isaria fumosorosea occurs naturally in soil. It is not expected to move or leach.

12.5. OTHER ADVERSE EFFECTS

None noted. See 12.2 above.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of onsite or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 14: TRANSPORTATION INFORMATION

UN NUMBER	UN PROPER SHIPPING NAME	TRANSPORT HAZARD CLASS(ES)
None	Not applicable	Not applicable
PACKING GROUP	ENVIRONMENTAL HAZARDS	SPECIAL PRECAUTIONS FOR USER
Not applicable	Not applicable	None
TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL73/78 AND THE IBC CODE		
Not applicable		

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

EPA/FIFRA		
<p>This product is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticidal chemicals. The pesticide label also includes other important information, including directions for use.</p> <ul style="list-style-type: none"> EPA Signal Word: Caution 		
OSHA	TSCA STATUS	CERCLA REPORTABLE QUANTITY
Not applicable	Exempt	Not applicable
SARA TITLE III	RCRA STATUS	OTHER
Section 302: Not applicable Section 311/312: Not applicable Section 313: Not applicable	Not applicable	None

SECTION 16: OTHER INFORMATION

ABBREVIATIONS

OSHA	US Occupational Health and Safety Administration
EPA	US Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TSCA	Toxic Substances Control Act
PEL	Permissible exposure limit
STOT	Specific target organ toxicity
TLV	Threshold limit value
TWA	Time-weighted average
LD ₅₀	Median lethal dose: dose resulting in 50% mortality in the test species
LC ₅₀	Median lethal concentration: concentration resulting in 50% mortality in the test species
EC ₅₀	Median effective concentration: concentration resulting in 50% reduction in algae growth or algae growth rate, or <i>Daphnia</i> immobilization
PPE	Personal protective equipment
PBT	Persistent, bioaccumulative, and toxic
vPvB	Very persistent, very bioaccumulative
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (Marine Pollution 1973/1978 ,

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