

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: LEPROTEC® WG
Product Type: Wetable granule
EPA Registration No. 70051-66-88847
Active Ingredient: *Bacillus thuringiensis* subspecies *kurstaki* strain SA-11
CAS No.: 680338-71-1

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

Identified uses: For use as a bioinsecticide on listed crops and pests.
Uses advised against: Any use not listed on the label

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name: Vestaron Corporation
Address: 4025 Stirrup Creek Drive, Suite 400
 Durham, North Carolina 27703 USA
Phone Number: +1 (919) 694-1022
Website: <http://www.vestaron.com>

1.4. EMERGENCY TELEPHONE NUMBER

Emergency number: +1 (800) 535-5053 (Infotrac)

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

OSHA Hazard Classification: Category 2B (eye irritation)
Signal Word: Warning.
Hazard Statements: H320: Causes eye irritation.
Pictogram: None.
Precautionary Statements: P102: Keep out of reach of children
 P264: Wash thoroughly after handling
 P270: Do not eat, drink, or smoke when using this product.
 P273: Avoid release to the environment.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P391: Collect spillage.

P501: Dispose of contents/container according to local regulations

2.2. OTHER HAZARDS

Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS #	% w/w	
<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain SA-11	680338-71-1	85.0	
Hazardous Ingredient(s)	Classification	CAS #	% w/w
Mixture (finished product)	Category 2B (eye irritation)	N/A	N/A

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

If in 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.

If inhaled: 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 treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Hot Line Number: +1 (800) 535-5053 (Infotrac).

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

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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

Treat symptomatically. See Sections 2 and 4.1 for additional information.

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

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.

This product must not be applied aerially within ¼ mile of any habitats of endangered or threatened *Lepidoptera*. No manual application can be made within 300 ft. of any threatened or endangered *Lepidoptera*.

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. Collect mechanically. Sweep, vacuum, or shovel material into a container for disposal. Avoid generation of dusts. Transfer to a suitable container for disposal or recovery. Seal the container and handle in an approved manner. Reclaim material if possible. Clean up affected area with plenty of water. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

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 in a cool, dry place inaccessible to children and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 90°F may impair effectiveness.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Substance	Occupational Exposure Limits
None.	<u>OSHA PELs:</u> not established <u>ACGIH TLVs:</u> 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.

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

- None specified.

HAND/SKIN PROTECTION

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

8.2.3. ENVIRONMENTAL EXPOSURE CONTROLS

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.

This product must not be applied aerially within ¼ mile of any habitats of endangered or threatened *Lepidoptera*. No manual application can be made within 300 ft. of any threatened or endangered *Lepidoptera*.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brown granules
Odor:	Fishy
Odor Threshold:	Not established
pH:	5.5 – 6.5 (1% dilution)
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 applicable
Density:	0.428 – 0.473 g/ml
Solubility:	Not determined
Partition Coefficient (n-octanol/water):	Not determined
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not determined
Viscosity:	Not applicable
Other relevant properties:	None

9.2. OTHER INFORMATION

Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

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

10.2. CHEMICAL STABILITY

Stable under normal conditions of storage and use.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

No known hazardous reactions.

10.4. CONDITIONS TO AVOID

Avoid exposure to moisture, excessive heat, or open flame.

10.5. INCOMPATIBLE MATERIALS

None known.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. LIKELY ROUTES OF EXPOSURE

Dermal, eye, ingestion.

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

May cause skin irritation. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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

See section 4.

11.4 ACUTE TOXICITY

<i>Test</i>	<i>Results</i>	<i>US EPA Toxicity Category</i>
Acute oral LD₅₀	> 5,000 mg/kg (rat)	4
Acute dermal LD₅₀	> 2.0 g/animal (rat)	3
Acute inhalation LC₅₀	> 10 g/animal (rat)	4
Eye irritation:	Moderate irritation; no corneal opacity at any time interval.	3
Skin irritation:	Nonirritating.	4

Test	Results	US EPA Toxicity Category
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	[insert appropriate language.] <u>NTP</u> : not listed <u>IARC</u> : not listed <u>OSHA</u> : not listed
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SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Species	Test	Study Duration	Conditions	Test substance	Results
Bobwhite quail (<i>Colinus virginianus</i>)	Acute oral tox/path	5-day	Gavage	TGAI	LC ₅₀ > 3.86 x 10 ⁹ CFU/kg bw
Rainbow trout (<i>Oncorhynchus mykiss</i>)	Acute freshwater fish tox/path	30-day	Static-renewal	TGAI	LC ₅₀ > 1 x 10 ⁸ CFU/mL
Cladoceran (<i>Daphnia magna</i>)	Acute aquatic invertebrate	48-hour	Static-renewal	TGAI	EC ₅₀ > 1 x 10 ⁸ CFU/mL
Green alga (<i>Selenastrum capricornutum</i>)	Algal toxicity	72-hour	Static	TGAI	EC ₅₀ > 1 x 10 ⁶ CFU/mL
Honeybee (<i>Apis mellifera</i>)	Acute oral/contact toxicity	48-hour	Oral; Contact	WG	LD ₅₀ oral > 428.66 µg/bee LD ₅₀ contact > 320 µg/bee

12.2. PERSISTENCE AND DEGRADABILITY

Bacillus thuringiensis subspecies *kurstaki* (Btk) shows a rapid loss of activity in response to UV light.

12.3. BIOACCUMULATIVE POTENTIAL

Btk is not pathogenic and does not reproduce in living organisms other than target Lepidopteran larvae.

12.4. MOBILITY IN SOIL

Low soil mobility based on scientific data for Btk.

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: Pesticide, spray mixture, or rinse water that cannot be used according to label instruction must be disposed of according to Federal, State, or Local procedures.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag 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

14.1. UN NUMBER

Not applicable.

14.2. UN PROPER SHIPPING NAME

Not applicable.

14.3. TRANSPORT HAZARD CLASS(ES)

Not applicable.

14.4. PACKING GROUP

Not applicable.

14.5. ENVIRONMENTAL HAZARDS

Not applicable. Not classified as a Marine Pollutant.

14.6. SPECIAL PRECAUTIONS FOR USER

None.

14.7. 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:

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.

KEEP OUT OF REACH OF CHILDREN

CAUTION

OSHA:

N/A.

TSCA STATUS:

Exempt.

CERCLA REPORTABLE QUANTITY:

N/A.

SARA TITLE III:

Section 302:	N/A.
Section 311/312:	N/A.
Section 313:	N/A.

RCRA STATUS:

N/A

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 (<u>Marine Pollution 1973/1978</u> ,

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