

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: Madex® HP
Product Type: Insecticide
EPA Registration No. 69553-1-70051
Active Ingredient: *Cydia pomonella* granulovirus isolate V22
CAS No.: Not applicable

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

Identified uses: For use as an insecticide on listed crops.
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: 9145 Guilford Road, Suite 175
Columbia, Maryland 21046
USA
Phone Number: +1 (800) 847-5620
Website: <http://www.CertisUSA.com>

1.4. EMERGENCY TELEPHONE NUMBER

Emergency number: +1 (800) 255-3924

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

OSHA Hazard Classification: Not classified.
Signal Word: None. See Section 15.
Hazard Statements: None. See Section 15.
Pictogram: None.
Precautionary Statements: None. See section 15

2.2. OTHER HAZARDS

None known. See Section 15.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)	CAS #	% w/w	
<i>Cydia pomonella</i> granulovirus isolate V22 (Contains a minimum of 3 x 10 ¹³ viral occlusion bodies/L of product)	Not applicable	0.06%	
Hazardous Ingredient(s)	Classification	CAS #	% w/w
None	N/A	N/A	N/A

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

Treat symptomatically.

If swallowed: 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 by a poison control center or doctor. Do not give anything to an unconscious person.

If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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 further treatment advice.

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. Call a poison control center or doctor for treatment advice.

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: Water mist, alcohol resistant foam, dry powder, carbon dioxide.

Unsuitable Extinguishing Media: Water-jet, foam.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous combustion products: At elevated temperatures, there is a risk of exothermic polymerization (> 200°C). At temperatures > 280°C, Acrolein may be formed.

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.

5.4. OTHER INFORMATION

Avoid contact with oxidizing agents. Cool closed containers with water.

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 washwaters 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. Collect as much material as possible. Transfer to a suitable, clean 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 this product in original sealed container in a cool, dry place inaccessible to children and pets. Store at temperatures below 41°F (5°C). Bioactivity may be impaired by storage above 86°F (30°C). Storing the product under cold or freezing temperatures will extend its shelf life.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Substance	Occupational Exposure Limits
<i>Cydia pomonella</i> granulovirus isolate V22	<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:

Ensure ventilation is adequate.

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. Goggles or faceshield recommended when mixing/loading.

SKIN PROTECTION

- Long-sleeved shirt

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- Long pants
- Waterproof gloves
- 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 washwaters or rinsate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Grayish-brown liquid (20°C)
Odor:	Typical organic odor
Odor Threshold:	Not determined
pH:	6 – 7
Melting Point / Freezing Point:	Not applicable
Initial Boiling Point:	103°C
Boiling Range:	103-290°C
Flash Point:	> 100°C
Evaporation Rate:	Not applicable
Flammability (solid, gas):	Not applicable
Lower & Upper Flammability Limits:	Not determined
Vapor Pressure:	< 0.1 Pa (20°C)
Vapor Density (Air = 1):	Not determined
Density:	~1,100 kg/m ³ (20°C)
Solubility:	Soluble in water
Partition Coefficient (n-octanol/water):	Not applicable
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	Not applicable
Viscosity:	39.0 mm ² /s (20°C)
Other relevant properties:	Not applicable

9.2. OTHER INFORMATION

Explosion properties:	None known
Oxidizing properties:	None known

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Not reactive.

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10.2. CHEMICAL STABILITY

No decomposition if stored and handled properly.

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

Temperature > 200 °C (polymerization, decomposes).

10.5. INCOMPATIBLE MATERIALS

Avoid contact with oxidizing agents.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Acrolein (> 280°C).

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 skin or eye irritation.

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 LD₅₀	Oral LD ₅₀ > 5 x 10 ⁹ PIB/kg bw (rat) (Lit.)	IV
Acute dermal LD₅₀	No toxicity hazard	--
Acute inhalation LC₅₀	LC ₅₀ > 1 x 10 ⁸ granulosis inclusion bodies/mL (pulmonary tox-path)	IV
Eye irritation:	Mildly and reversibly irritating	III
Skin irritation:	Nonirritant	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

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SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Species	Test	Study Duration	Conditions	Test substance	Results
Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute freshwater fish	96-hour	Static	SC	LC ₅₀ > 100 mg product/L
Daphnid (<i>Daphnia magna</i>)	Acute freshwater invertebrate	48-hour		SC	LC ₅₀ > 100 mg product/L
Duckweed (<i>Lemna gibba</i> G3)	Acute aquatic plant	7-day		SC	EC ₅₀ > 100 mg product/L
Green alga (<i>Selenastrum capricornutum</i>)	Acute aquatic plant	72-hour		SC	EC ₅₀ > 100 mg product/L
Ground beetle (<i>Poecilus cupreus</i> L.)	Acute nontarget insect	15-day	Contact	SC	LC ₅₀ > 900 mL/Ha
Predatory mite (<i>Typhlodromus pyri</i> SCHEUTEN)	Acute nontarget insect	7-day	Dietary	SC	LC ₅₀ > 900 mL/Ha NOEC _{repro} = 900 mL/Ha
Aphid parasitoid (<i>Aphidius rhopalosiphi</i>)	Acute nontarget insect	48-hour	Dietary	SC	LC ₅₀ > 900 mL/Ha NOEC _{repro} = 900 mL/Ha
Honey bee (<i>Apis mellifera</i>)	Acute honey bee	10-day	Dietary tox/path		LC ₅₀ > 5 x 10 ¹⁰ CpGV OB

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradable.

12.3. BIOACCUMULATIVE POTENTIAL

Not persistent, not bioaccumulated.

12.4. MOBILITY IN SOIL

Potential absorptiveness in the top organic soil layers and very little capacity to leach to lower layers.

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: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

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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 10 seconds after the flow begins to drip. Fill the container 1/4 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. Do not burn, unless allowed by State and local ordinances.

SECTION 14: TRANSPORTATION INFORMATION

14.1. UN NUMBER

None. Not applicable.

14.2. UN PROPER SHIPPING NAME

None. Not applicable.

14.3. TRANSPORT HAZARD CLASS(ES)

Not applicable.

14.4. PACKING GROUP

Not applicable.

14.5. ENVIRONMENTAL HAZARDS

None. 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 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 additional hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed, absorbed through skin, or inhaled. Avoid contact with skin, eyes or clothing, and breathing spray mist. Causes moderate eye and skin irritation. 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.

Engineering Controls: When handlers use closed systems or enclosed cabs in a manner that meet 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 provide 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.

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 (Marine Pollution 1973/1978 ,

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