

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name:	CLARIVA PN	Product No.:	A19824C
EPA Signal Word:	Not Applicable		
Active Ingredient(%):	Pasteuria Nishizawae Pn1 (15.000%)	CAS No.:	Not Assigned
Chemical Name:	Not Assigned		
Chemical Class:	Bionematicide		
EPA Registration Number(s):	100-1524	Section(s) Revised:	11

2. HAZARDS IDENTIFICATION

Health and Environmental

Presents a low hazard during normal handling.

Hazardous Decomposition Products

Not Available

Physical Properties

Appearance: Brown to dark brown liquid

Odor: Not Available

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Glycerin	15 mg/m ³ TWA (total); 5 mg/m ³ TWA (respirable)	10 mg/m ³ TWA (mist)	Not Established	No
Pasteuria Nishizawae Pn1	Not Established	Not Established	Not Established	No

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
 Syngenta Hazard Category: A

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: 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 Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

Not Available

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): Not Available
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Available

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Where eye contact is likely, use splash-proof chemical goggles.

Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH certified respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown to dark brown liquid
Odor: Not Available
Melting Point: Not Available
Boiling Point: Not Available
Specific Gravity/Density: 1.04 g/ml
pH: Not Available

Solubility in H₂O

Pasteuria Nishizawae Pn1: Not Available

Vapor Pressure

Pasteuria Nishizawae Pn1: Not Available

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Not Available
Materials to Avoid: Not Available
Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:

Oral (LD50 Rat) : No adverse effects (applies to the technical material)

Dermal:

Dermal (LD50 Rat) : No adverse effects (applies to the technical material)

Inhalation:

Inhalation (LC50 Rat) : No adverse effects (applies to the technical material)

Eye Contact: No adverse effects (applies to the technical material)

Skin Contact: No adverse effects (applies to the technical material)

Skin Sensitization: No adverse effects (applies to the technical material)

Reproductive/Developmental Effects

Pasteuria Nishizawae Pn1: Not Available

Chronic/Subchronic Toxicity Studies

Pasteuria Nishizawae Pn1: Not Available

Carcinogenicity

Pasteuria Nishizawae Pn1: Not Available

Other Toxicity Information

Applies to the Technical Material

Acute Oral Toxicity/Pathogenicity: Not toxic and/or pathogenic to rats when administered by oral gavage in a single dose of $1.6 \times 10^{(-9)}$ spores per animal.

Acute Pulmonary Toxicity/Pathogenicity: Not toxic and/or pathogenic to rats when administered by intratracheal instillation in a single dose of $1.6 \times 10^{(-8)}$ spores per animal.

Acute Injection Toxicity/Pathogenicity (Intraperitoneal): Not toxic and/or pathogenic to rats when administered intravenously in a single dose of $1.0 \times 10^{(-9)}$ spores per animal.

No hypersensitivity incidents, including immediate-type or delayed-type reactions of humans have been reported during research, development testing and production of this or related bacterial materials.

Toxicity of Other Components

Glycerin

Repeated or prolonged exposure to concentrated solutions may result in dermatitis.

Target Organs

Active Ingredients

Pasteuria Nishizawae Pn1: Not Available

Inert Ingredients

Glycerin: Skin

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Pasteuria Nishizawae Pn1:
Not Available

Environmental Fate

Pasteuria Nishizawae Pn1:
Not Available

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated.

Comments

Water Transport - International

Not regulated.

Air Transport
Not regulated.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

This product does not contain chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

CERCLA/SARA 304 Reportable Quantity (RQ)

Not Applicable

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/17/2013

Revision Date: 7/17/2013

Replaces:

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS