

**Postharvest Bioprotectant****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name .....Bio-Save® 11 LP post-harvest Bioprotectant  
 Product Use.....A post-harvest fungal disease control product for pomes fruit, sweet potatoes and potatoes.  
 Emergency  
 Phone Numbers.....CHEMTREC 800-424-9300  
 Technical Service .....877-866-5773  
 Other Information.....407-523-7842  
 Preparation Date.....04/21/05  
 Manufacturer.....JET Harvest Solutions  
 P.O. Box 915139  
 Longwood, FL 32791 USA  
 877-866-5773

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient	CAS No.	Weight %	ACGIH TLB	OSHA PEL
Pseudomonas syringae Strain ESC11	68583-32-4	30	Not Established	Not Established
*Inert Ingredients	Proprietary	70	Not Established	Not Established

\*Inert Ingredients is a term defined by the US EPA under FIFRA (40 CFR 158.153). It refers to any substance, other than an active ingredient, which is intentionally added to a pesticide product.

Where proprietary ingredient shows, the identity may be made available as provided in the OSHA Hazard Communication Standard.

**3. HAZARDS IDENTIFICATION**

**Emergency Overview:** Off-white to tan powder, strong bread-like odor. Presents little or no hazard if spilled and no unusual hazard if involved in a fire.

**Potential Health Effects:**

**Inhalation:** Unknown. Like all forms of respirable foreign protein, this material would have potential for causing pulmonary sensitization.

**Eyes:** Contact with eyes may cause mild/reversible eye irritation.

**Skin:** Non-irritating to the skin.

**Ingestion:** This material is not harmful if swallowed.

**Carcinogenicity:** Not listed as a carcinogen by NTP, OSHA or IARC.

**Chronic Effects:** None.

**Medical Conditions Generally Aggravated by Exposure:** None known for this product.

**4. FIRST AID MEASURES**

**Inhalation:** Remove to fresh air if discomfort or difficulty in breathing is experienced. Obtain medical attention if condition persists.

**Eyes:** Flush immediately with plenty of water for 15 minutes or until irritation subsides. If irritation develops or persists, seek medical attention.

**Skin:** Wash with soap and water after handling. Remove any contaminated clothing.

**Ingestion:** Seek medical attention if discomfort is experienced.

**5. FIRE FIGHTING MEASURES**

**Flammable Properties:** Not applicable.

**Extinguishing Media:** This material is non-combustible. Use extinguishing media such as foam, dry chemicals, water, or carbon dioxide appropriate to the surrounding fire.

**Fire Fighting Instructions:** Wear full fire fighting turn out gear (Bunker gear) and self-contained, positive pressure breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES**

**Spill or Leak Procedures:** Contain spill. Soak up with absorbent material. Shovel into waste container and cover for disposal. Disposal of material should be in accordance with Federal, state and local environmental control regulations (see Section 13).

**7. HANDLING AND STORAGE**

**Handling:** Wash thoroughly with soap and water after handling. Avoid contact with skin, eyes and clothing. Practice good housekeeping.

**Storage:** Store in original packaging. Store at 4°C refrigerated temperature for short-term (6 months) product shelf life stability. Shelf life of product will degrade after 6 months at 4°C. Store at -70°C, for long term product stability.

**8. EXPOSURE CONTROL/PERSONAL PROTECTION**

**Respiratory Protection:** This mixture does not have established exposure limits.

**Eye Protection:** Wear goggles or safety glasses with side shields when mixing or loading.

**Skin Protection:** Wear insulated gloves when handling frozen materials.

**Engineering Controls:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs and ACGIH TLVs. Good general ventilation should be sufficient for most conditions. Local exhaust is preferred.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance .....Off-white to tan powder

Odor.....Bread like

Physical State .....Powder

pH.....7.0

Vapor Pressure.....Not applicable

Vapor Density.....Not applicable

Boiling Point.....Not applicable

Melting Point.....Not determined for mixture

Solubility in Water.....Insoluble

Specific Gravity (H<sub>2</sub>O = 1).....Not determined for mixture

**10. STABILITY AND REACTIVITY**

**Chemical Stability:** Material is considered stable under normal ambient and anticipated storage and handling conditions.

**Incompatibility:** None.

**Hazardous Decomposition Products:** None.

**Hazardous Polymerization:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral Effects:** Oral LD<sub>50</sub> in rats is greater than 5000 mg/kg.

**Skin Effects:** No skin irritation was noted in a primary dermal irritation study in rabbits. No local or systemic toxicity was noted in an acute dermal toxicity study in rabbits. The LD<sub>50</sub> for rabbits is greater than 5010 mg/kg.

**Acute Inhalation Effects:** No information is available for the mixture. However, no mortality or irreversible signs of toxicity were produced by the active ingredient, *Pseudomonas syringae*, in an inhalation toxicity study in rats.

**Eye Effects:** An eye irritation study in rabbits produced mild, reversible eye irritation.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information:** No information is available. *Pseudomonas syringae*, ESC 11, is not classified as a plant pathogen by USDA/APHIS.

**Chemical Fate Information:** No information is available.

**13. DISPOSAL CONSIDERATIONS**

**Methods of Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Dispose of in accordance with Federal, state and local environmental control regulations. Contact local waste disposal handler for detailed information.

**14. TRANSPORT INFORMATION**

**DOT:** Not a DOT hazardous material.

**15. REGULATORY INFORMATION**

TSCA Status: Exempt

FIFRA: Regulated

CERCLA Reportable Quantity: None

SARA Title III

Section 302 Extremely Hazardous Substances: None

Section 311/312 Hazard Categories: Non-hazardous

Section 313 Toxic Chemicals: None

RCRA Status: None

State/Country Information: Not applicable

National Fire Protection Association (NFPA) Hazard

Classification:

(Key: 0=Minimum, 1=Slight, 2=Moderate, 3=High/Serious, 4=Extreme/Severe)

Health - 0; Flammable - 0; Reactivity - 0

**16. OTHER INFORMATION**

EPA Registration No.: 81803-1

MSDS Status:

**Key/Legend:**

ACGIH.....American Conference of Governmental Industrial Hygienists

CAS No. ....Chemical Abstract Number

CERCLA .....Comp. Environmental Response, Compensation and Liability Act

DOT.....Department of Transportation

EPA.....Environmental Protection Agency

FIFRA.....Federal Insecticide, Fungicide and Rodenticide Act

IARC.....International Agency for Research on Cancer

mg/m<sup>3</sup>.....Milligrams per Cubic Meter

MSHA.....Mine Safety and Health Administration

NIOSH.....National Institute of Occupational Safety and Health

NTP.....National Toxicology Program

OSHA .....Occupational Safety and Health Administration

PEL .....Permissible Exposure Limit

ppm.....Parts per Million

RCRA.....Resource Conservation and Recovery Act

SARA.....Superfund Amendments and Reauthorization Act

TLV .....Threshold Limit Value

TSCA.....Toxic Substance Control Act

The information and recommendations contained herein are offered as a service to our customers but are not intended to relieve the user from responsibility to investigate and understand pertinent sources of information and to comply with all laws and procedures applicable to the safe handling and use of these materials. The information and recommendations provided herein are believed by JET Harvest Solutions to be accurate at the time of preparation. However, JET Harvest Solutions makes no warranty concerning the accuracy and completeness of the information contained herein and, therefore, will not be held liable for claims relating to any party's use or reliance on information or recommendations contained herein, regardless of whether it is claimed that the information is inaccurate, incomplete, or otherwise misleading.



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Technical & Customer Service 1-877-866-5773

Phone: 407-523-7842