

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND MANUFACTURER INFORMATION

Plantacillin

CHEMICAL NAMES AND SYNONYMS

Bacillus subtilis

MANUFACTURER'S NAME AND ADDRESS

Future Harvest Development

725 Evans Crt

Kelowna BC

V1X 6G4

1-866-491-0255

SECTION 2 - COMPOSITION AND INGREDIENT INFORMATION

CHEMICAL NAME (INGREDIENTS)

Bacillus subtilis GB03 (*not less than 5.0×10^{10} viable spores per milliliter*)

CAS: N/A

HAZARD: Irritant

% BY WEIGHT: 1.37

Liquid fertilizer solution*

CAS: N/A

HAZARD: Irritant

% BY WEIGHT: 98.63

**Trade secret*

A biological fungicide used for the prevention, suppression and control of soil borne diseases on a wide range of commercially important plants in greenhouses. Contains the active ingredient GB03 which quickly colonizes the developing root system. Provides biological protection for a more vigorous root system in the presence of disease causing organisms.

SECTION 3 - HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE

ACUTE (SHORT TERM EXPOSURE): Liquid may cause slight eye irritation and repeated skin exposure may cause some skin irritation. Repeated contact may cause dermal and respiratory sensitization.

CHRONIC (LONG TERM EXPOSURE): None known.

GENERAL PRECAUTIONS: Always practice good industrial hygiene; handle with care; avoid personal contact. Do not get into eyes or on skin; do not breathe mist or vapor of product. Do not swallow. Wash hands with soap and water and rinse after handling product. Shower after each shift. Wash all work clothing and completely clean all PPE (personal protective equipment) after each shift.

MEDICAL CONDITIONS RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE: N/E

PRIMARY ROUTE OF ENTRY: Ingestion

SECTION 4 - FIRST AID INFORMATION

Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

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. Call a Poison Control Center or doctor for treatment advice.

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 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 do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
NOTE TO PHYSICIAN (ANTIDOTE): N/A

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: N/A
FLAMMABLE LIMITS: N/A
LOWER EXPLOSIVE LIMIT (LEL): N/A
UPPER EXPLOSIVE LIMIT (UEL): N/A

EXTINGUISHING MEDIA: FOAM, CO₂, DRY CHEMICAL, WATER SPRAY
SPECIAL FIRE FIGHTING PROCEDURES: Not normally required.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear protective equipment. Collect liquid or solidify with absorbent material and place in suitable labeled container. Prevent spilled material from directly entering ground or surface water.
REPORTABLE QUANTITY (RQ) UNDER CERCLA: N/A

SECTION 7 - STORAGE AND HANDLING INFORMATION

STORAGE TEMPERATURES:
MAX 110°F MIN 32°F
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not contaminate water, food, or feed by storage or disposal. Do not contaminate water by cleaning of equipment or disposal of wastes. Approximate Freeze Point is 30°F.

OTHER PRECAUTIONS

Causes skin irritation. Avoid contact with eyes, skin, or clothing. In case of contact, flush affected area with plenty of water. Repeated or prolonged excessive exposure may lead to sensitization of skin and lungs in susceptible individuals. When applying or handling concentrate or in the absence of adequate ventilation, wear a paper dust mask which covers at least one third of the face. Wash face, hands, and arms thoroughly with soap and water after handling and before eating or smoking.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust or general ventilation to minimize exposure.
PERSONAL PROTECTIVE EQUIPMENT (PPE)
EYE/FACE PROTECTION: Goggles or face shield if splashing is expected.
HAND/SKIN PROTECTION: Rubber gloves.
RESPIRATORY PROTECTION: Dust/mist filtering respirator or a NIOSH approved respirator with any N, R, P, or HE filter if misting occurs.
WORK PRACTICES: N/E

EXPOSURE GUIDELINES

CHEMICAL NAME: *Bacillus subtilis*
CAS NUMBER: N/A
OSHA Permissible: N/A
Exposure Limit (PEL): N/A
ACGIH Threshold Limit Value (TLV): N/A

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Liquid pH (AS IS): 4.75 – 5.25
BOILING POINT (°F): N/A
SOLUBILITY (WATER): Miscible

SPECIFIC GRAVITY: 1.12
COLOR: Black to dark brown
VAPOR DENSITY (Air = 1): N/E
EVAP. RATE (BuAc=1): N/E
VAPOR PRESSURE (mmHg): N/E
FREEZING POINT (°F): 30°F
VISCOSITY: 100-200 cps
ODOR: Organic, sweet
% VOLATILE BY WEIGHT: N/E

SECTION 10 - STABILITY AND REACTIVITY INFORMATION

INCOMPATIBILITY (MATERIALS TO AVOID): Disinfectants, acids, bases, oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, ammonia.
STABILITY: STABLE
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11 - TOXICITY INFORMATION

ORAL LD50: N/E
DERMAL LD50: N/E
INHALATION LC50: N/E
Related products are not toxic or pathogenic to rats exposed to 10⁸ CFU.

EFFECTS TO EYES: N/E
EFFECTS TO SKIN: N/E
CARCINOGENICITY REFERENCE SOURCES:
I.A.R.C.: No
N.T.P.: No
O.S.H.A.: No

SECTION 12 - ECOLOGICAL INFORMATION

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwater or rinsate. Cover or incorporate spilled seed or seed on soil surface.

SECTION 13 - DISPOSAL CONSIDERATIONS

LIQUID DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.
CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning; 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 - TRANSPORT INFORMATION

REGULATED BY: Not regulated as a hazardous material by any mode of transportation.
DOMESTIC ROAD/RAIL (DOT)
For Package Sizes: Not Regulated.
Proper Shipping Name: N/A (not regulated).
ERG Number: 171
Placard (>1001 lbs.): N/A
Marine Pollutant? No
EXPORT WATER (IMO) Not Regulated.
AIR (ICAO/IATA) Not Regulated.

SECTION 15 - OTHER INFORMATION

HMIS RATINGS

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0
PERSONAL PROTECTION: E

ABBREVIATION KEY

N/A = Not Applicable
C = Ceiling Limit
STEL = Short Term Exposure Limit
N/D = Not Determined
rf = Respirable Fraction
SKIN = Skin Notation
N/E = Not Established
td = Total Dust

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