

SAFETY DATA SHEET**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: **GRANDEVO[®]** (synonym: MBI-203 DF)

REGISTRATION NO: 84059-17

MANUFACTURER: Marrone Bio Innovations

ADDRESS: 1540 Drew Avenue, Davis CA, 95618

**EMERGENCY PHONE: INFOTRAC Chemical Response System
US and Canada 1-800-535-5053 (24 hours)
International 1-352-323-3500 (24 hours)**

OTHER CALLS: Marrone Bio Innovations 530-750-2800 (9am to 5 pm PST)

FAX PHONE: Marrone Bio Innovations 530-750-2808

PRODUCT USE: Bio-based Insecticide/ bio-protectant

SECTION 2: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW:**

Causes eye irritation

HAZARD SYMBOLS:

Pictogram (NONE)

Signal Word Warning

HAZARD STATEMENT:

H320 Causes eye irritation

PRECAUTIONARY STATEMENTS

P264 Wash exposed areas thoroughly after handling.

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 attention.

POTENTIAL ROUTES OF ENTRY: Oral, eye, and inhalation.**CARCINOGENICITY:**

OSHA: Not listed ACGIH: Not listed NTP: Not listed. IARC: Not listed

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**ACTIVE INGREDIENT:***Chromobacterium subtsugae* strain PRAA4-1

SAFETY DATA SHEETCAS NO. None% WT 30EXPOSURE LIMITS None EstablishedOTHER INGREDIENTS:

70.0 % inert, non-reactive.

SECTION 4: FIRST AID MEASURES

INHALATION: Remove person to fresh air. If the 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.

EYES: Hold eye open and rinse slowly and gently with water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Do not use an eye ointment. Call poison control center or doctor for treatment advice.

SKIN: Remove contaminated clothing. Rinse skin immediately with plenty of water for at least 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: 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 physician. Do not give anything by mouth to an unconscious person.

SECTION 5: FIRE-FIGHTING MEASURES**FLAMMABLE LIMITS IN AIR, (% BY VOLUME)**

UPPER: Not applicable.

LOWER: Not applicable.

FLASH POINT: Not applicable.**AUTOIGNITION TEMPERATURE:** Not applicable.**NFPA HAZARD CLASSIFICATION**

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

HMIS HAZARD CLASSIFICATION

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

EXTINGUISHING MEDIA: Use extinguishing media appropriate for the surrounding fire.**SPECIAL FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None**HAZARDOUS DECOMPOSITION PRODUCTS:** None**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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ACCIDENTAL RELEASE MEASURES: Wear suitable protection such as a dust mask, long-sleeved shirt, pants, waterproof gloves and shoes with socks. Carefully mop or sweep up spill and place in a closed container for disposal. Dispose of in accordance with applicable local ordinances. Prevent run-off from being released into the environment.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in the closed, original container in a well-ventilated area out of direct sunlight. Keep containers closed when not in use. Empty container completely and dispose of in accordance with all applicable federal, state and local environmental regulations.

OTHER PRECAUTIONS: No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Spill controls and dust control apparatus should be provided for working with large quantities.

VENTILATION: No TLV assigned. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and aerosols below the exposure levels. Ensure that eyewash stations and safety showers are proximal to the work-station location.

RESPIRATORY PROTECTION: Use a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95 or P-95.

EYE PROTECTION: Safety goggles or glasses with side shields advisable when handling dry powder.

SKIN PROTECTION: Wear gloves made of Latex or other impervious material.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Clothing to prevent prolonged skin contact as needed such as long-sleeved shirt, long pants and shoes with socks.

WORK HYGIENIC PRACTICES: Wash any contamination from skin or eyes immediately. Wash hands and exposed skin before eating, drinking, smoking, after work or using the toilet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Powder
COLOR:	Dark brown powder
ODOR:	Fruity
pH:	7 to 9
DENSITY:	Not determined
BOILING POINT:	Not applicable
MELTING POINT:	Not applicable
SOLUBILITY IN WATER:	Dispersible in water
FLASH POINT:	Not determined
EVAPORATION RATE:	Not determined

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FLAMMABILITY (SOLID, GAS):	Not determined
UPPER FLAMMABILITY LIMITS:	Not determined
LOWER FLAMMABILITY LIMITS:	Not determined
VAPOR PRESSURE:	Not determined
VAPOR DENSITY:	Not determined
RELATIVE DENSITY:	Not determined
SOLUBILITY IN OTHER SOLVENTS:	Not determined
PARTITION COEFFICIENT:	Not determined
AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined
KINEMATIC VISCOSITY:	Not determined
DYNAMIC VISCOSITY:	Not determined
EXPLOSIVE PROPERTIES:	Not determined
OXIDIZING PROPERTIES:	Not determined

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable.

INCOMPATIBILITY (MATERIAL TO AVOID): None known

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Not known to occur

CONDITIONS TO AVOID (POLYMERIZATION): None

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY LD ₅₀ :	>5000 mg/kg (rat). Not categorized
ACUTE DERMAL TOXICITY LD ₅₀ :	>5050 mg/kg (rat). Not categorized
ACUTE INHALATION LC ₅₀ :	>5.11 mg/L (rat). Not categorized
EYE IRRITATION:	Mild irritation; clears within 72 hours (rabbit) Category 2B
SKIN IRRITATION:	Does not produce irritation (rabbit) Not categorized.
SKIN SENSITIZATION:	Non-sensitizing (guinea pigs) Not categorized

SECTION 12: ECOLOGICAL INFORMATION

This product is non-toxic or practically nontoxic (Category 4) to mammalian wildlife, beneficial insects and mites, and freshwater aquatic life in short-term studies. Long-term data is unavailable.

Avian Acute Oral Toxicity:	Bobwhite quail. LD ₅₀ >2000 mg/kg-bw. Non-toxic. Category 5
Toxicity to freshwater aquatic life:	<i>Daphnia magna</i> (48-hour acute toxicity) EC ₅₀ = 11 mg/L AI. Category 3
Bees and beneficial insects:	Honeybees (<i>Apis mellifera</i> L.) Non-toxic. Category 4

In a federally approved study, GRANDEVO was found to be practically non-toxic to honeybees. This product has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is

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not feasible. Prior to treating entire crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

For terrestrial uses only: 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 wash water or rinsate.

Sensitive areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Do not allow product to drift to blooming crops or weeds if bees are foraging. Minimize spray drift away from the target area to reduce effects to other non-target insects

Bioconcentration potential: This material is not expected to bioconcentrate in organisms.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not reuse containers. Dispose of in accordance with all applicable federal, state, and local environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT: Not regulated
IATA DGR: Not regulated
IMDG: Not regulated
Freight Classification: Insecticide. See NMFTA code.

SECTION 15: REGULATORY INFORMATION

Allowable Tolerances:

Residues of GRANDEVO[®] are exempted from the requirement of a tolerance when used in accordance with good agricultural practices and label application instructions to agricultural commodities directed on the product label.

U.S. FEDERAL REGULATIONS

TSCA: Exempt
CERCLA: Not applicable.

SARA TITLE III HAZARD CLASSIFICATION SECTIONS 311 AND 312:

Immediate (acute) Health: None
Delayed (chronic) Health: None

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Fire: None
Sudden Release of Pressure: None
Reactivity: None

US STATE RIGHT TO KNOW REGULATIONS:

New Jersey Right To Know Components CAS No.
Kaolin 1332-58-7

Pennsylvania Right To Know Components CAS No.
Kaolin 1332-58-7

California Proposition 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION**NFPA HAZARD CLASSIFICATION**

HEALTH: 0 FLAMMABILITY: 0 REACTIVITY: 0

HMIS HAZARD CLASSIFICATION

HEALTH: 0 FLAMMABILITY: 0 REACTIVITY: 0

SPECIAL HAZARDS: Not Determined

Date Issued: 06 June 2017
Revision Date: 2
Revision Note: Clarify hazard categories and statements, update US State RTK

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