

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

PRODUCT NAME: **MAJESTENE[®]**

REGISTRATION NO: 84059-14

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 Nematicide

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May be minimally irritating to skin. If skin irritation occurs, get medical advice.

HAZARD SYMBOLS:

Pictogram **None**

Signal Word **None**

HAZARD STATEMENT: None

PRECAUTIONARY STATEMENTS: None

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

SYNONYM: MBI-305 EP

<u>ACTIVE INGREDIENT</u> :	<u>CAS NO.:</u>	<u>% WT:</u>	<u>EXPOSURE LIMITS:</u>
Heat-killed <i>Burkholderia sp.</i> strain A396 cells and spent fermentation media	None	94.46	None Established

<u>OTHER INGREDIENTS:</u> Inert, non-reactive	Varies	5.54	
--	--------	------	--

SAFETY DATA SHEET**SECTION 4: FIRST AID MEASURES**

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.

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.

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: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Wear suitable clothing such as eye protection, long-sleeved shirt, pants and shoes with socks. If spilled, contain - prevent run off into drains and waterways. Absorb liquid with an inert absorbent material. Seal absorbent material in a closed labeled container and dispose of in accordance with local ordinances.

SECTION 7: HANDLING AND STORAGE

SAFETY DATA SHEET

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 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 liquid.

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:	Liquid
COLOR:	Pale yellow to pink to brown
ODOR:	Sweet nutty, earthy
pH:	5 to 8
DENSITY:	1 g/ml
SOLUBILITY IN WATER:	Miscible in water
BOILING POINT/RANGE:	Not determined
FREEZING/MELTING POINT:	Not determined
FLASH POINT:	Not determined
EVAPORATION RATE:	Not determined
FLAMMABILITY (SOLID. GAS):	Not determined
UPPER FLAMMABILITY LIMITS:	Not determined
LOWER FLAMABILITY 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

SAFETY DATA SHEET

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 classified
ACUTE DERMAL TOXICITY LD ₅₀ :	>5050 mg/kg (rat). Not classified
ACUTE INHALATION LC ₅₀ :	>5.22 mg/L (rat). Not classified
EYE IRRITATION:	Non-irritating (rabbit). Not classified
SKIN IRRITATION:	Minimally irritating (rabbit). Not classified
SKIN SENSITIZATION:	Non-sensitizing (guinea pigs). Not classified

SECTION 12: ECOLOGICAL INFORMATION

Avian Acute Oral Toxicity:	(OECD 206) Bobwhite quail. LD ₅₀ >2000 mg/kg-bw. Non-toxic.
Toxicity to freshwater aquatic life:	(OECD 203) Rainbow trout (96-hour acute toxicity) EC ₅₀ > 1000 mg/L AI. Minimally toxic. (OECD 202) <i>Daphnia magna</i> (48-hour acute toxicity) EC ₅₀ > 48 mg/L AI. (OECD 201) Green unicellular algae (72-hour growth inhibition) NOEC 1000 mg/L. Category acute 3.
Bees and beneficial insects:	Honey bees (48-hour contact (OECD 214) and acute oral (OECD 213) toxicity) LD ₅₀ > 100 µg a.i./bee. Non-toxic

To minimize the potential for exposure to bees or other pollinating insects, do not apply while bees seek food. Do not allow to move to flowering crops or weeds if the bees look for food. Minimize aerosol drift away from target area to reduce effects to other non-target insects.

MAJESTENE[®] has been evaluated for toxicity to non-target insects in a variety of bioassays and in a variety of crops under various normal growth conditions. However, testing for all beneficial insects, in all situations, mixtures and combinations, is not feasible. Before treating the whole crop, where the release of beneficial insects serves as part of the Integrated Pest Management (IPM) program, consult with an extension specialist, a pest management consultant (PCA) or the manufacturer of the product.

SAFETY DATA SHEET

For terrestrial uses only: Do not apply directly to water, or in areas where surface water is present, or for intertidal areas below the tide mark. Do not contaminate water with equipment wastes or rinse liquid.

Sensitive areas: The pesticide should be applied only when the possibility of moving to susceptible adjacent areas (e.g. residential areas, bodies of water, known habitat of endangered or endangered species, non-target crops) is minimal, e.g. when the wind blows away from sensitive areas). Do not allow the spray to disperse from the application site and contact people, structures occupied by persons at any time and associated properties, parks and recreational areas, non-target crops, aquatic areas and wetlands, forests, grasslands, or animals. Do not allow to move to flowering crops or weeds if the bees look for food. Minimize aerosol drift away from target area to reduce effects to other non-target insects.

Potential for bioconcentration: Bioconcentration of this product in organisms is not expected.

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: Nematicide. See NMFTA code.

SECTION 15: REGULATORY INFORMATION

ALLOWABLE TOLERANCES: Residues of MAJESTENE[®] 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.

INTERNATIONAL REGULATIONS

TSCA: Exempt

U.S. FEDERAL REGULATIONS

CERCLA: Not applicable.

SARA TITLE III HAZARD CLASSIFICATION SECTIONS 311 AND 312:

Immediate (acute) Health:	None
Delayed (chronic) Health:	None
Fire:	None
Sudden Release of Pressure:	None
Reactivity:	None

SARA 313: Not determined

SAFETY DATA SHEET

U.S. STATE REGULATIONS: None

US STATE RIGHT-TO-KNOW REGULATIONS:

New Jersey Right To Know Components

1-hexanol CAS No. 111-27-3

Propylene glycol CAS No. 57-55-6

Pennsylvania Right To Know Components

1-hexanol CAS No. 111-27-3

Propylene glycol CAS No. 57-55-6

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: 30 October 2018

Revision: 8

Revision Note: General clarification throughout, harmonize to other documents

DISCLAIMER: IN NO EVENT SHALL MARRONE BIO INNOVATIONS BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES. THE DATA PROVIDED IS FOR GENERAL INFORMATION ONLY AND IS NOT INTENDED AS A COMPREHENSIVE GUIDE CONCERNING HAZARDS THAT MAY BE ASSOCIATED WITH THIS PRODUCT. USER ASSUMES ALL RESPONSIBILITY FOR FOLLOWING PROPER SAFETY PROTOCOL AND CONSULTING TRAINED PERSONNEL FOR CONTROL AND CONTAINMENT.