

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

PRODUCT NAME: **VENERATE™**

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 insecticide

SECTION 2: HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION: This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

EMERGENCY OVERVIEW: Potential Irritant

HAZARD SYMBOLS:

Pictogram



Signal Word

Warning

HAZARD STATEMENT: This product is potentially irritating to respiratory tract and skin for some individuals.

H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

P261 Avoid breathing fume/mist/vapors/spray

P281 Use personal protective equipment as required.

P284 Wear respiratory protection

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

CARCINOGENICITY:

OSHA: Not listed

ACGIH: Not listed

NTP: Not listed.

IARC: Not listed

Physical State: liquid

Odor: grassy; straw-like

Color: light-brown

SAFETY DATA SHEET**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**ACTIVE INGREDIENT:Heat-killed *Burkholderia sp.* strain A396CAS NO.: None% WT:
94.46EXPOSURE LIMITS: None EstablishedOTHER INGREDIENTS:

5.54 % inert, non-reactive

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

SAFETY DATA SHEET**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

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:	Light brown
ODOR:	Straw-like
pH:	6.8
DENSITY:	1.0 g/ml
SOLUBILITY IN WATER:	Miscible in water
BOILING POINT/RANGE:	Not determined
FREEZING/MELTING POINT:	Not determined
FLASH POINT:	Not determined

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EVAPORATION RATE:	Not determined
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

WARNING: This product may be harmful if swallowed. This product may be harmful in contact with skin. This product may be harmful if inhaled.

ACUTE ORAL TOXICITY LD ₅₀ :	>5000 mg/kg (rat). Category 5
ACUTE DERMAL TOXICITY LD ₅₀ :	>5050 mg/kg (rat). Category 5
ACUTE INHALATION LC ₅₀ :	>5.22 mg/L (rat). Category 4
EYE IRRITATION:	Non-irritating (rabbit). Category 4
SKIN IRRITATION:	Minimally irritating (rabbit). Category 4
SKIN SENSITIZATION:	Non-sensitizing (guinea pigs). Category 4

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. LD₅₀ >2000 mg/kg-bw. Non-toxic. Category 5

Toxicity to freshwater aquatic life: Rainbow trout (96-hour acute toxicity) EC₅₀ > 1000 mg/L AI. Minimally toxic. Category 4.
Daphnia magna (48-hour acute toxicity) EC₅₀ = 28.8 mg/L. Category 3.

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Unicellular green algae (72-hour growth inhibition) NOEC 1000 mg/L .
Category 4.

Bees and beneficial insects: Honey bee (48-hour contact and oral acute toxicity) LD₅₀ > 100 µg a.s./
bee. Non-toxic.

To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging. 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.

VENERATE PTO 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 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

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazardous information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

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Causes moderate eye irritation

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

U.S. STATE REGULATIONS: None

US STATE RIGHT-TO-KNOW REGULATIONS: None

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: January 22 2015

Revision Date: 2

Revision Note: Updated address for MBI in section 1

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