SAFETY DATA SHEET

(According to EC Directive 2001/58/EC)

Print date: Ver.21 Oct 2004

BioSensory, Inc.
Willimantic, CT 06226 USA

Section 1: IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1. Identification of the substance or preparation

Octenol.

Synonyms: 1-Octen-3-ol; amylvinylcarbinol, Matsutake alcohol.

1.2. Use of the substance/preparation

Lure for the attraction of mosquitoes and other biting insects.

1.3. Company identification

Manufacturer - Bedoukian Research Inc., 21 Finance drive, Danbury, CT 06810-4192, USA
Telephone:001 203 830 4000.

Formulator – BioSensory® Inc., Windham Mills Technology Centre, 322 Main Street, Building 1, 2nd Floor Willimantic, CT 06226-3149, USA.
Telephone: 001 860 423 3009.

EU Member State address:-Information required to complete SDS.

1.4. Emergency telephone

PROSAR: 1-800-498 5923 (U.S. & Canada)
PROSAR: +1 651 632 6784 (Outside U.S. & Canada)

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

2.1. Chemical characterisation

1-Octen-3-ol (24.5%); each lure contains 3.72g octenol in wax, encased in polyproplene housing.
MW 128.21; Molecular formula $C_8H_{16}O$.
Hazardous ingredients: 1-Octen-3-ol is considered Generally Recognised as Safe (GRAS) by the US Food and Drug Administration and the Council of Europe accepts it for use in human and animal food as an artificial flavouring.

2.2. (i) Substances presenting a health or environmental hazard: NOT APPLICABLE.
(ii) Community workplace exposure limits: NOT APPLICABLE.

2.3. NOT APPLICABLE.

2.4. R22; R36/38 S26/S28. S36/37/39; S45. Classification in accordance with Directive 67/548/EEC.

2.5. EC number 222-226-0; CAS number 3391-86-4; CIPAC number Not available.

2.6. Chemical nature of substances whose identity is to be kept confidential: NOT APPLICABLE.

Section 3: HAZARDS IDENTIFICATION

Transient skin irritation.
Ocular irritation.
Harmful if swallowed.
After contact with eyes, rinse immediately with water and seek medical advice.
After contact with skin, wash immediately with water.
Remove all contaminated clothing.
If swallowed do not induce vomiting, seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection, when handling the active ingredient in bulk.
In case of insufficient ventilation wear suitable respiratory equipment.
Keep attractant cartridge unopened in cool, dry place and, once opened, avoid contact of skin, eyes or mouth.

Section 4: FIRST AID MEASURES

For skin or eye contact, immediately flush affected areas of skin thoroughly with soap and water, remove contaminated clothing/shoes/gloves while flushing. Ensure eyes are copiously rinsed by separating eyelids with clean fingers, persisting for approximately 15 minutes.
If inhaled, remove to fresh air, provide artificial respiration if breathing is laboured and oxygen if breathing is difficult.
If swallowed, rinse mouth with water if victim is conscious. Do not induce vomiting. CALL DOCTOR.
Wash any contaminated clothing prior to re-use.

Section 5: FIRE-FIGHTING MEASURES

Extinguish using water spray, fog or carbon dioxide to control fire.
Fire fighters – wear self-contained breathing apparatus and protective clothing to prevent skin/eye contact.
No known explosion hazards but thermal decomposition releases oxides of carbon.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions:
Evacuate area. Wear self-contained breathing apparatus and protective gloves, splash-proof eye-goggles.
Environmental precautions:
Keep away from drains, surface and ground water and soil.
Methods for cleaning up:
Wipe residual material from spillage with a cloth and place in closed container for disposal. Ventilate area and wash spill site after material spillage has been removed.

Section 7: HANDLING AND STORAGE

7.1. Handling

Avoid contact between skin, eyes or mouth with internal surface of foil packaging or contents of foil bag.
Wash hands after use and before eating, drinking, chewing gum, smoking or using bathroom facilities.

7.2. Storage

Store in cool dry conditions. When not in use, store attractant in unopened foil bag as supplied.

7.3. Specific use(s)

For use as a biting insect attractant.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure limit values

No available data.

8.2. Exposure controls

Observe usual hygiene precautions when handling. Use safety shower and eye bath.

8.2.1. *Occupational exposure controls:*

Use engineering controls wherever possible, wearing protective clothing.

8.2.1.1. Respiratory protection:

Use appropriate NIOSH/MSHA-approved respirator.

8.2.1.2. Hand protection:

Use chemical resistant gloves.

8.2.1.3. Eye protection:

Safety goggles or 8 inch minimum faceshield. Use eye bath.

8.2.1.4. Skin protection:

Use safety shower.

8.2.2. *Environmental exposure controls*

Keep away from drains, surface and ground water and soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Appearance: 1-octen-3-ol (3.72 g) is impregnated into an asymmetrical strip, manufactured to slot into the dispensing unit.

Odour: Fungal, earthy, mushroom

9.2. Important health, safety and environmental information

pH:	No data available
Melting point:	61°C
Boiling point:	84-85°C
Flash point:	62°C
Flammability (solid, gas):	240°C
Explosive properties:	Not explosive
Oxidising properties:	Not oxidising
Vapour pressure:	0.24 hPa at 20°C
Specific gravity:	0.835 g/cm^3
Solubility:	
-water solubility:	Practically insoluble - 0.08 mol/L
- fat solubility:	Soluble in most organic solvents
Partition coefficient (n-octanol/water):	K_{ow} = 63
Viscosity:	Not applicable
Vapour density:	4.4

9.3. Other information

Colour: colourless

Section 10: STABILITY AND REACTIVITY

10.1. Conditions to avoid

Material is stable under normal physical conditions.

10.2. Materials to avoid

Incompatible with oxidising materials.

10.3. Hazardous decomposition products

May produce oxides of carbon if heated to decomposition.

Section 11: TOXICOLOGICAL INFORMATION

Rat:

Oral LD_{50} = 340 mg/kg bw.
Dermal LD_{50} = 3300 mg/kg bw.
Inhalation LC_{50} = 3.72 mg/L.

Rabbit:

Skin irritation – non-irritant.
Eye irritation – requirement waived on basis of GRAS status in US and approval in Europe for use as artificial flavouring in foodstuffs.

Guinea pig:

Skin sensitisation – non-sensitising in human maximisation model.

Other information:

48 hour occlusive dermal exposure was non-irritating to human skin.
Mutagenic potential: - requirement waived on basis of GRAS status in US and approval in Europe for use as artificial flavouring in foodstuffs.

Subacute/Chronic toxicity:

Requirement waived on basis of GRAS status in US and approval in Europe for use as artificial flavouring in foodstuffs.
No evidence of carcinogenicity.

Experiences with human beings:

Accepted by Council of Europe for use in foods as an artificial flavouring – considered Generally Recognised as Safe (GRAS) by US Food and Drug Administration. Closed patch test in humans indicated no dermal irritation. Very slight sensitisation in 2/22 human volunteers in sensitisation maximisation test. 1-Octen-3-ol is used in perfumes up to a level of 1%; there has been no evidence to date for ocular or respiratory effects arising from perfume evaporation.

Section 12: ECOLOGICAL INFORMATION

12.1. Ecotoxicity

Acute toxicity fish (trout) LC_{50}	No data available.
Acute toxicity invertebrate (*D.magna*) EC_{50}	No data available.

Waivers requested for acute/prolonged toxicity to fish; acute toxicity to aquatic invertebrates and acute toxicity to aquatic plants. This material is not intended for release into water environments.

12.2. Mobility

No information.

12.3. Persistence and degradability

Octenol is a naturally occurring alcohol, ubiquitous in plants and environment. No indications of persistence in soil.

12.4. Bioaccumulative potential

No data available.

12.5. Other adverse effects

Unknown.

Section 13: DISPOSAL CONSIDERATIONS

Incineration or disposal in local landfill. The material should be discarded in accordance with local and national regulations.

Section 14: TRANSPORT INFORMATION

14.1 Road transport
14.1.1 ADR:- Class 6.1 Toxic substances.
14.1.2 RID:- Class 6.1 Toxic substances.
14.2 Inland waterways transport
14.2.1 ADNR:- Class 6.1 Toxic substances.
14.3 Marine transport
14.3.1 IMDG/UN:- Class 6.1 Toxic substances.
14.4 Air transport
14.4.1 ICAO/IATA-DGR:- Class 6.1 Toxic substances.

UN No: 2810.

Section 15: REGULATORY INFORMATION

Labelling in accordance with EC Directive 2001/59/EC:

HARMFUL

Labelling with the symbol 'Xn' and the appropriate indication of danger eg R22 – Harmful if swallowed is required if active substance content exceeds 25%.

Section 16: OTHER INFORMATION

R22 – Harmful if swallowed.
R36/38 – Irritating to eyes and skin.
S26 – In case of contact with eyes, rinse immediately with copious amounts of water and seek medical advice.
S28 – After contact with skin, wash immediately with plenty of water.
S45 – In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S36/37/39 – Wear suitable protective clothing, gloves, respiratory equipment and eye/face protection.