

Safety Data Sheet

1. Identification of Product and Company

Product Identifier:

ISOMATE® CM/OFM TT
U.S. EPA Registration Number: 53575-30

Identification of the substance: Codling Moth and Oriental Fruit Moth pheromone product

Relevant Identified Uses of the Substance or Mixture:

For Agricultural Use Only. This product contains the mixture of (E,E)-8,10-Dodecadien-1-ol, Dodecanol, Tetradecanol, Z-8-Dodecen-1-yl Acetate, E-8-Dodecen-1-yl Acetate, Z-8-Dodecen-1-ol and stabilizers. This product contains behavior modifying biochemicals (pheromones) that disrupts mating of codling moth (CM) and oriental fruit moth (OFM) and is to be used as directed on its approved U.S. EPA pesticide label.

Important Notice:

This product contains a mixture. This SDS applies only in case that the container (pheromone dispenser) breaks and the chemicals inside leak. The product is safe for use. Due to the small amount of the chemicals in the product and the type of container (pheromone dispenser), a spill of the chemicals is highly unlikely.

Details of the Supplier of the SDS:

Pacific Biocontrol Corporation
14615 NE 13th Court, Suite A
Vancouver, Washington 98685 U.S.A.
Phone:
Company URL:

360-571-2247 or 1-800-999-8805
www.pacificbiocontrol.com

Emergency Telephone Numbers:

Medical:	Call Doctor or
Poison Control Center:	800-222-1222
Leak, Fire, Spill or Accident:	Call CHEMTREC
CHEMTREC (USA and Canada)	800-424-9300
CHEMTREC (International)	703-527-3887

2. Hazards Identification

2.1 Classification of the Substance or Mixture*:

GHS Classification

Physical Hazards

Flammable liquids:	Not classified
Self-reactive substances:	Not classified
Pyrophoric liquids:	Not classified
Self-heating substances:	Not classified
Substances which, in contact with water, emit flammable gases:	Not classified
Oxidizing liquids:	Not classified

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2. Hazards Identification continued

Health Hazards

Acute toxicity:	Category 4
Skin irritation:	Category 2
Eye irritation:	Category 2B
Respiratory sensitization:	Not available
Skin sensitization:	Not available
Germ cell mutagenicity:	Not-classified
Carcinogenicity:	Not available
Reproductive toxicity:	Not available
Specific target organ toxicity single exposure:	Not available
Specific target organ toxicity repeated exposure:	Not available
Aspiration hazard:	Not available

Environmental Hazards

Acute aquatic toxicity:	Category 1
Chronic aquatic toxicity:	Category 1

* This product is registered under the US Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Refer to Section 15 "Regulatory information" of this SDS to find the FIFRA label elements.

3. Composition/Information on Ingredients

Description of the Mixture:

This product contains the mixture of (E,E)-8,10-Dodecadien-1-ol*, Dodecanol*, Tetradecanol*, (Z)-8-Dodecen-1-yl acetate*, (E)-8-Dodecen-1-yl acetate*, (Z)-8-Dodecen-1-ol* and other ingredients**.

Composition/Ingredients:

Identification name	(E,E)-8,10-Dodecadien-1-ol*	Dodecanol*	Tetradecanol*	(Z)-8-Dodecen-1-yl acetate*	(E)-8-Dodecen-1-yl acetate*	(Z)-8-Dodecen-1-ol*	Others Ingredients**
Synonyms	Codlemone, Codelure	Lauryl alcohol	Myristyl alcohol	Z8-dodecen-1-ol acetate	E8-dodecen-1-ol acetate	Z8-12OH	No Data
Chemical formula	C ₁₂ H ₂₂ O	C ₁₂ H ₂₆ O	C ₁₄ H ₃₀ O	C ₁₄ H ₂₆ O ₂	C ₁₄ H ₂₆ O ₂	C ₁₂ H ₂₄ O	No Data
Molecular weight	182	186	214	226.4	226.4	184.3	No Data
CAS No.	33956-49-9	112-53-8	112-72-1	28079-04-1	38363-29-0	40642-40-8	No Data
TSCA No. (USA)	33956-49-9	112-53-8	112-72-1	28079-04-1	38363-29-0	40642-40-8	No Data
EINECS No. (ECU)	251-761-2	203-982-0	204-000-3	248-823-6	253-904-4	255-019-9	No Data
Concentration (wt%)	58.40	9.23	1.87	21.33	1.30	0.21	7.66

*Component is a member of the well-characterized group of SCLPs, i.e., Straight Chain Lepidopteran Pheromones.

**Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. They are non-hazardous, but their identities are withheld because they are considered trade secrets.

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4. First-Aid Measures

Persons using this product should consult a physician or other medical professional if an accident involving this product caused injury. Specific first-aid measures are as follows:

Doctor or Poison Control Center (Hot Line Number):

Have the product container (foil packet) or label with you when calling a poison control center or doctor or when going for treatment or seeking medical attention. For medical emergencies, call the poison control center at 1-800-222-1222. For general information on this product, call 1-800-999-8805, Monday through Friday, 9AM to 5PM.

Recommendations for a Doctor or Poison Control Center:

Symptomatic treatment. The chemical group is pheromone. No specific antidote is known. There are no signs or symptoms of poisoning and, there have been no reports of poisoning.

If on Skin or Clothing:

Remove contaminated clothing. Immediately rinse skin for 15-20 minutes using plenty of water. Contact a poison control center or doctor for treatment advice.

If in Eyes:

Immediately hold eyes open, slowly and gently rinse with water for 15-20 minutes. If wearing contact lenses, rinse eyes for 5 minutes, remove contact lenses, and continue rinsing. Contact a poison control center or doctor for treatment advice.

First Aid Safeguards:

Use gloves, or other protective equipment as required.

5. Fire-Fighting Measures

Flammable Properties:

Flash Point: 98°C (not established for pheromone dispenser).

Flammable Limits: Not established.

LEL: Not established.

UEL: Not established.

Extinguishing Media:

Suitable extinguishing media: CO₂, extinguishing powder or alcohol-resistant foam.

Unsuitable extinguishing media: High volume water jet.

Specific Hazards Arising from the Substance:

If exposed to heat or fire, the chemicals may decompose and generate toxic irritating gases. If ignited or in high oxygen concentrated atmosphere, the chemicals have the possibility of combustion or explosion.

Specific Extinction Method:

Work from the windward position. Fire could be expanded by water spray, use appropriate extinguishing media. If safely possible, move the product from near the fire to out of the area. If it is impossible to move the product, cool down the product with spraying plenty of water. Don't use high volume water jet.

Advice for Firefighters:

Use self-contained breathing apparatus, chemical cartridge respirator for organic gases, gloves or other protective equipment for firefighting.

Additional information: Collect contaminated firefighting water separately as it must not enter drains or sewers.

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6. Accidental Release Measures

Due to the small amount of chemicals in the product, even if the container (pheromone dispenser) is damaged or broken, a spill of the chemical is highly unlikely.

Methods and Materials for Containment and Cleaning Up:

Mark off the area near around the spill by roping and seal off except authorized personnel. Ensure adequate ventilation. In the case of an indoor leakage, ventilate before entering and provide ventilation while cleaning-up.

Wear and use self-contained breathing apparatus, chemical cartridge respirator for organic gases, protective gloves, protective eyewear, protective boots or other protective apparel to prevent excessive skin contact and protect eyes.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to federal and local law.

For small spills: Absorb spill with dry sand, earth or charcoal, then place in chemical waste container. Do not allow to enter drainage system, sewers, surface or ground water.

For large spills: Collect with a pump and transfer to a metal container with a seal. Absorb spill with dry sand or charcoal, and do not allow to enter drainage system, sewers, surface or ground water. Mop up the residual spill with charcoal or absorbent materials. Dispose of contaminated absorbents according to federal and local law. Work from the windward position.

Environmental Precautions:

Do not allow to enter drainage system, sewers, surface or ground water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of this product. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. Do not dispose of new or unused dispensers in or near streams or bodies of water.

7. Handling and Storage

General Items:

Use this product for its intended purpose.

Read the instructions on the product label carefully.

Do not open product packages (foil envelopes) until ready to use. Do not eat, drink or smoke when handling this product or when in its storage area. Keep out of reach of children. Keep away from ignition sources, heat, sparks and open flame.

Precautions for Safe Handling:

Keep out of reach of children. Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. When handling dispensers wear long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves and protective eyewear. After handling, wash thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Conditions for Safe Storage, Including any Incompatibilities:

Do not contaminate water, food or feed by storage or disposal.

Store in original unopened product packages in a dry location at temperatures below 40°F (4°C). To prevent contamination with food or feed, store only unopened product packages in cold storage facilities that are used for food or feed. Protect from heat and direct sunlight.

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8. Exposure Controls/Personal Protection

Due to the small amount of chemicals in the product, even if the container (pheromone dispenser) is damaged or broken, a spill of the chemical is highly unlikely. The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Exposure Controls:

Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. Wear long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves and protective eyewear. After handling, wash thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Hand protection: Chemical resistant gloves.

Eye protection: Protective eyewear (goggles).

Protective wear for skin and body: Long-sleeve shirt. Long pants. Shoes and socks.

Exposure Limits:

ACGH: Not listed.

OSHA: Not listed.

Health Hazard Categories:

U.S. EPA Toxicity Category: III -CAUTION

Personal Protection Measures:

Use this product for its intended purpose.

Read the instructions on the product label carefully.

Keep out of reach of children. Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. When handling dispensers wear long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves and protective eyewear. After handling, wash thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties:

	(E,E)-8,10-Dodecadien-1-ol*	Dodecanol*	Tetradecanol*
Appearance	Liquid, colorless or yellowish	Solid, white	Solid
Odor	Oily-fatty and slightly waxy	Characteristic	Characteristic
Odor threshold	None	None	None
pH (pH meter)	5.6	Not possible	Not possible
Melting point/Freezing point	18-22°C	24°C	38°C
Initial Boiling point, Boiling range (OECD 103)	120-122°C/2mmHg	150°C/20mmHg	167°C/15mmHg
Flash point	127°C (Pensky Martens)	138°C (Open cup)	141°C (Open cup)
Evaporation rate	No data	No data	No data
Flammability (solid/gas)	No data	No data	No data
Upper/Lower Flammability or Explosive limits	No data		

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9. Physical and Chemical Properties continued

	(E,E)-8,10-Dodecadien-1-ol*	Dodecanol*	Tetradecanol*
Vapor pressure (calculated)	1.260x10 ⁻³ mmHg		
Vapor density	Not required		
Relative density (pycnometer method)	0.874	0.820	0.824
Solubility (OECD 105)	Insoluble in water (less than 2mg/L)	4mg/L (25°C)	3.1x10 ⁻⁵ % (25°C)
Partition coefficient: n-octanol/water (OECD 107)	4.30 (25°C)	5.1	6.19
Auto-ignition temperature	Not tested	275°C	No data
Decomposition temperature	No data		
Viscosity (Ubbelohde method)	No data		
Explosive Properties	Not explosive (judgement)		
Oxidizing Properties	Not oxidizing (judgement)		

	(Z)-8-Dodecen-1-yl acetate*; (E)-8-Dodecen-1-yl acetate*	(Z)-8-Dodecen-1-ol*
Appearance	Oily liquid; Light yellow transparent	Oily liquid; Light yellow transparent
Odor	Faint	Sweet floral
Odor threshold	None	None
pH (pH meter)	4.8	No information
Melting point/Freezing point	-58.3°C	No data
Initial Boiling point, Boiling range (OECD 103)	120-125°C/3mmHg	113-115°C/3mmHg
Flash point	138°C (Pensky-Martens)	134°C (Pensky-Martens)
Evaporation rate	No information	No information
Flammability (solid/gas)	No information	No information
Upper/Lower Flammability or Explosive limits	No information	No information
Vapor pressure (calculated)	5.16x10 ⁻³ mmHg (20°C)	8.91x10 ⁻³ mmHg (20°C)
Vapor density	Not required	Not required
Relative density (pycnometer method)	0.879g/cm ³ (20°C)	0.852g/cm ³ (20°C)
Solubility (OECD 105)	2.2mg/L (20°C)	Insoluble in water
Partition coefficient: n-octanol/water (OECD 107)	Log Pow ≤6.2	Log Pow <5.3
Auto-ignition temperature	Not tested	Not tested
Decomposition temperature	No information	No information
Viscosity (Ubbelohde method)	No information	12.80c.s. (20°C)
Explosive Properties	Not explosive (judgement)	Not explosive (judgement)
Oxidizing Properties	Not oxidizing (judgement)	Not oxidizing (judgement)

* Component is a member of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

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10. Stability and Reactivity

Stability:

Product is stable under normal and anticipated storage and handling conditions as labeled on the product. No hazardous reactions are expected from the use of the product as labeled.

Reactivity:

May react with oxygen and strong oxidizing agents, such as chlorates, peroxides, etc.

Conditions to Avoid:

Avoid contact with excessive heat, sparks, or open flame.

Incompatible materials:

Oxidizing agents.

Hazardous Decomposition:

Carbon monoxide and carbon dioxide, but no decomposition if used as labeled.

11. Toxicological Information

Information on Toxicological Effects of (E,E)-8,10-Dodecadien-1-ol*, Dodecanol* and Tetradecanol*:

Acute toxicity	Oral LD ₅₀	>2,500mg/kg (Rats)	SCLP
		>1,075mg/kg (Quail)	
	Dermal LC ₅₀	>1,000mg/kg (Rats)	
	Inhalation (Gas)	No data	
	Inhalation (Vapor)	38mg/l (Rat)	
	Inhalation (Mist) LC ₅₀	>2.73mg/kg (Rats)	
Skin Corrosion/Irritation		Slight to moderate dermal irritation (Rabbits)	SCLP
Serious eye damage/Eye Irritation		Slight to moderate conjunctival irritation (Rabbits)	
Respiratory or Skin sensitivity		No skin contact sensitization response (Guinea pigs)	
Germ cell mutagenicity		Ames test: Negative	
Carcinogenicity	IARC	Not listed	
	NTP	Not listed	
	EPA	Not listed	
	ACGIH	Not listed	
	NITE	Not listed	
Reproductive toxicity		No data	
Specific target organ toxicity (Single exposure)		No data	
Specific target organ toxicity (Repeated exposure)		No data	
Aspiration hazard		No data	

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11. Toxicological Information continued

Information on Toxicological Effects of (Z)-8-Dodecen-1-yl acetate*, (E)-8-Dodecen-1-yl acetate* and (Z)-8-Dodecen-1-ol*:

Acute toxicity	Oral LD ₅₀	>2,000mg/kg (Rats)	SCLP
	Dermal LC ₅₀	No data	
	Inhalation (Gas)	No data	
	Inhalation (Vapor)	No data	
	Inhalation (Mist) LC ₅₀	No data	
Skin Corrosion/Irritation		Irritating to skin	SCLP
Serious eye damage/Eye Irritation		No data	
Respiratory or Skin sensitivity		No data	
Germ cell mutagenicity		Ames test: Negative	
Carcinogenicity	IARC	Not listed	
	NTP	Not listed	
	EPA	Not listed	
	ACGIH	Not listed	
	NITE	Not listed	
Reproductive toxicity		No data	
Specific target organ toxicity (Single exposure)		No data	
Specific target organ toxicity (Repeated exposure)		No data	
Aspiration hazard		No data	

* Component is a member of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

12. Ecological Information

Ecological Toxicity:

(E,E)-8,10-Dodecadien-1-ol*	LD ₅₀ >2,150mg/kg (14d, Bobwhite quail)	SCLP
	LC ₅₀ >120mg/l (96h, Rainbow trout)	
	EC ₅₀ =1.3mg wm/l (48h, Daphnia magna)	
Dodecanol*	LC ₅₀ >1.01mg/l (96h, Fathead minnow)	SCLP
Tetradecanol*	LC ₅₀ >10g/l (96h, Zebrafish) EC ₅₀ >50mg/l (96h, Scenedesmus)	
(Z)-8-Dodecen-1-yl acetate*; (E)-8-Dodecen-1-yl acetate*	LC ₅₀ >0.44mg/l (96h, Carp)	SCLP
	EC ₅₀ >0.30mg/l (48h, Daphnia magna)	
(Z)-8-Dodecen-1-ol*	LC ₅₀ >0.686mg/l (Brachydanio rerio) EC ₅₀ =0.30mg/l (Daphnia magna)	

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12. Ecological Information continued

Persistence and Degradability of (E,E)-8,10-Dodecadien-1-ol*, Dodecanol*, Tetradecanol*, (Z)-8-Dodecen-1-yl acetate*, (E)-8-Dodecen-1-yl acetate* and (Z)-8-Dodecen-1-ol*:

Rapidly degradable.

Bioaccumulative Potential

(E,E)-8,10-Dodecadien-1-ol*	Partition coefficient: n-octanol/water	log Pow: 4.3	SCLP
Dodecanol*	Partition coefficient: n-octanol/water	log Pow: 5.1	
Tetradecanol*	Partition coefficient: n-octanol/water	log Pow: 6.19	
(Z)-8-Dodecen-1-yl acetate*; (E)-8-Dodecen-1-yl acetate*	Partition coefficient: n-octanol/water	log Pow ≤6.2	SCLP
(Z)-8-Dodecen-1-ol*	Partition coefficient: n-octanol/water	log Pow <5.3	

Mobility in Soil

No data available. Exposure is not likely.

* Component is a member of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

13. Disposal Considerations

Waste Disposal:

Use this product for its intended purpose.

Read the instructions on the product label carefully.

Do not contaminate water, food or feed when disposing of this product. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Do not dispose of new or unused dispensers in or near streams or bodies of water.

Unused material that cannot be used according to label instructions must be disposed of according to local requirements. Dispose of empty dispensers in accordance with local requirements.

Nonrefillable container. Do not reuse or refill this container.

Dispose of empty foil packet in trash or in accordance with local requirements.

14. Transport Information

Transportation:

Description:	Plastic hand-applied pheromone dispenser
UN Number	Not applicable – Not classified as dangerous
Freight Class:	CLASS 60
Identification Numbers:	NMFC# S155050-12
Packing Group:	Not applicable

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14. Transport Information continued

Flash Point:

Flash point is 98°C (not established for pheromone dispenser).

Special Precautions for User:

Follow the precautions as listed on this SDS.

15. Regulatory Information

U.S. EPA

This is a pesticide product registered by the U.S. EPA and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for SDSs, and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is below. The pesticide label also includes other important information, including the Directions for Use.

KEEP OUT OF REACH OF CHILDREN. CAUTION: Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. After handling, wash thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using toilet. Remove and wash contaminated clothing before reuse. Wear chemical resistant gloves.

ISOMATE CM/OFM TT is registered with the U.S. EPA under EPA Registration No. 53575-30. This product is categorized under U.S. EPA Toxicity Category: III -CAUTION.

Health Canada

ISOMATE CM/OFM TT is registered for sale in Canada under PCP Number 31589 and has been classified in accordance with the hazard criteria of the Controlled Products Regulations. The hazard information required on the pesticide label is below. The pesticide label also includes other important information, including the Directions for Use.

KEEP OUT OF REACH OF CHILDREN: Do not open foil envelopes until ready to use. Avoid contact with skin, eyes, or clothing. Causes skin irritation. **DO NOT** get on skin. Wear a long-sleeved shirt, long pants, chemical resistant gloves, goggles, shoes and socks. Wash hands with soap and water after use.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

16. Other Information

These data are based on our current knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This safety data sheet is offered solely for your information, consideration and investigation. The data described in this SDS consist of data on literature, our acquisition data and analogical inference by data of similar chemical substances or products. Pacific Biocontrol provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein. Final determination of suitability of any material is the sole responsibility of the user.

Issued Date:

May 2, 2024