



Safety Data Sheet

1. Identification of Product and Company

1.1 Product Identifier:

Isomate® CM Flex

1.2 Other Means of Identification:

U.S. EPA Registration Number: 53575-32
Health Canada PMRA Registration Number: 31589

1.3 Recommended Uses and Restrictions on Use:

Recommended Uses:

This product contains the mixture of (E,E)-8,10-Dodecadien-1-ol, 1-Dodecanol, 1-Tetradecanol and stabilizers. This product contains behavior modifying biochemicals (pheromones) that disrupts mating of codling moth and hickory shuckworm.

Produced for agricultural use only.

Restrictions on use:

Any use not listed on the approved U.S. EPA pesticide label.

1.4 Details of the Supplier of the SDS:

Supplier:

Pacific Biocontrol Corporation

Address:

1831 NW Kings Blvd., Corvallis, OR 97330 U.S.A.

Phone:

1-360-571-2247 or 1-800-999-8805

Company URL:

www.pacificbiocontrol.com

1.5 Emergency Phone Numbers:

Medical:

Call Doctor or

Poison Control Center:

1-800-222-1222

Leak, Fire, Spill or Accident:

Call CHEMTREC

CHEMTREC (USA and Canada)

1-800-424-9300

CHEMTREC (International)

1-703-527-3887

2. Hazard Identification

2.1 Classification of the Mixture*:

GHS Classification:

Acute toxicity, Category 4

Skin irritation, category 2

Eye irritation, category 2B

Acute aquatic toxicity, category 1

Chronic aquatic toxicity, category 1

*Mixture of (E,E)-8,10-Dodecadien-1-ol, 1-Dodecanol, 1-Tetradecanol and other ingredients

2.2 Label Elements

Refer to section 15.

2.3 Other Hazards

The product must be handled in accordance with its approved U.S. EPA pesticide label and instructions in this safety data sheet.

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3. Composition/Information on Ingredients

3.1 Description of the Mixture:

Type of formulation:

Pesticide product contains the mixture of (E,E)-8,10-Dodecadien-1-ol, 1-Dodecanol, 1-Tetradecanol and other ingredients in plastic hand-applied pheromone dispenser.

Mode of Action: Mating disruption

Ingredients:

Identification name	(E,E)-8,10-Dodecadien-1-ol*	1-Dodecanol*	1-Tetradecanol*	Other Ingredients**
Common Name/Synonyms	Codlemone, Codelure	Lauryl alcohol	Myristyl alcohol	no data
Chemical formula	C ₁₂ H ₂₂ O	C ₁₂ H ₂₆ O	C ₁₄ H ₃₀ O	no data
Molecular weight	182	186	214	no data
CAS No.	33956-49-9	112-53-8	112-72-1	no data
Concentration (wt%)	52.96-55.45	29.73-30.03	6.04-6.18	

*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 the active ingredient contained in this product. They are non-hazardous, but their identities are withheld because they are considered trade secrets.

4. First-Aid Measures

4.1 Description of First Aid Measures:

General Information:

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 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 (PST).

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 protective gloves, or other protective equipment as required.

4.2 Symptoms (Acute and Delayed):

Acute Effects:

Skin: redness and cracking of the skin.

Eyes: redness, burning.

Chronic Effects: None known.

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5. Fire-Fighting Measures

5.1 Extinguishing Media:

Suitable extinguishing media:

Carbon dioxide, extinguishing powder, alcohol-resistant foam or nebulized water. Extinguishing large fires with water spray or alcohol-resistant foam.

Unsuitable extinguishing media:

The use of running water or high-volume water jet as a means of extinguishing is not recommended.

5.2 Special Hazards Arising from the Mixture:

Combustion or thermal decomposition can generate toxic vapors: carbon oxides and hydrocarbons. Their inhalation is very dangerous at high concentrations and/or in confined spaces.

5.3 Special Protective Equipment and Precautions for Fire-Fighters:

Firefighting instructions:

Use caution when fighting a chemical fire. Fight the flames from a distanced and safe position. Do not breathe fumes.

Cool closed containers exposed to fire. If possible, remove them from the fire site.

Collect extinguishing water that must not be discharged into sewers. Dispose of the contaminated water used for extinguishing and the residue of the fire according to current regulations.

Protections during Firefighting:

Always wear full fire protection equipment including mask with self-contained breathing apparatus and complete equipment consisting of helmet with visor and neck protection, fireproof jacket and trousers with bands around the arms and waist.

Additional information: Collect firefighting water separately. It must not enter drains.

6. Accidental Release Measures

This information applies only in the case that the foil packets are accidentally opened, and the plastic pheromone dispensers spill out. If the plastic pheromone dispensers are broken, due to the small amount of chemicals in the dispensers, a spill or leak of the chemicals is highly unlikely.

6.1. Personal Precautions, Protective Equipment and Emergency Procedures:

Personal Precautions:

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 the toilet. Remove and wash contaminated clothing before reuse.

Applicators and other handlers must wear work clothing consisting of long-sleeved shirt and long pants, shoes and socks, protective gloves and protective eyewear.

For Those Who Do Not Intervene Directly:

The following information is intended for properly trained personnel working where the product is normally used or stored and is intended to ensure, when possible, without risks, preliminary safety operations before leaving and awaiting the intervention of the emergency team.

Wear appropriate protective equipment: long-sleeved shirt and long pants or overalls, shoes and socks, protective gloves, glasses or protective eyewear, mouth covering and/or face mask. Avoid direct contact with skin, eyes or clothing.

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6. Accidental Release Measures continued

Evacuate the area. Ensure adequate ventilation and/or stop the accidental release if the operation does not involve risks. Eliminate all possible sources of ignition.

For Those Who Intervene Directly:

The following information and the information relating to the methods and materials of containment and clean-up is intended for the experienced personnel who are part of the emergency team and specially trained.

Wear appropriate protective equipment: long-sleeved shirt and long pants or overalls, shoes and socks, protective gloves, glasses or protective eyewear, mouth covering and/or face mask. Avoid direct contact with skin, eyes or clothing.

Evacuate the area. Ensure adequate ventilation and/or stop the accidental release if the operation does not involve risks. Eliminate all possible sources of ignition. All equipment used during clean-up must be grounded.

Emergency Procedures;

Evacuate the area. Ensure adequate ventilation

Avoid contact with skin, eyes or clothing.

6.2 Methods and Materials for Containment and Clean-up:

For Containment:

Stop the accidental release by sealing containers. Ensure adequate ventilation.

Use absorbent material (sand, diatomaceous earth, sawdust, clay, other non-combustible material), or absorbent cloths and mats to prevent spread of the accidental release. If possible, recover the product.

To Clean up:

Collect the material and place it in closed and properly labeled chemical containers. Containers should be sealed and handled appropriately. Try not to create dust and clean the area with water after removing any residue. Rinse the equipment with water.

Environmental Precautions:

Do not allow contaminated water to enter into drains or sewage systems. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes

Dispose of waste in accordance with federal and local environmental health and safety regulations.

7. Handling and Storage

7.1 Precautions for Safe Handling:

Precautions:

Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. Wear a long-sleeved shirt, long pants, chemical resistant gloves, goggles, shoes and socks. 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.

Applicators and other handlers must wear work clothing consisting of long-sleeved shirt and long pants, shoes and socks, protective gloves and protective eyewear.

Measures to prevent fires: Store in the original packaging in a dry location at below 40°F or 4°C.

Measures to protect the environment: Store in the original container

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7. Handling and Storage continued

7.2 Conditions for Safe Storage, including any compatibilities:

Store in original unopened package in a dry location at temperatures below 40°F or 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.

8. Exposure Controls/Personal Protection

8.1 Exposure Limits:

Exposure limits (PEL, ACGIH, or TLV) are not available for any of the ingredients contained in the mixture. There are no known side effects resulting from the use of the product.

8.2 Appropriate Engineering Controls:

Appropriate engineering controls are not available for any of the ingredients contained in the mixture.

8.3 Individual Protection Measures:

Personal Protection Measures:

Use this product for its intended purpose as listed in section 1.2. Read the instructions on the product label carefully.

Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. Wear a long-sleeved shirt, long pants, chemical resistant gloves, goggles, shoes and socks. 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.

Applicators and other handlers must wear work clothing consisting of long-sleeved shirt and long pants, shoes and socks, protective gloves and protective eyewear.

Personal Protection Equipment:

Hand Protection: Protective gloves with material that is impermeable.

Eye Protection: Protective eyewear, such as goggles or face shield.

Protective wear for skin and body: Work clothing consisting of long-sleeve shirt, long pants, shoes and socks.

9. Physical and Chemical Properties

Physical and Chemical Properties of (E,E)-8,10-Dodecadien-1-ol, Dodecanol and Tetradecanol*:

9.1 Physical state	Transparent liquid
9.2 Color	Colorless/light yellow
9.3 Odor (includes odor threshold)	Fatty waxy
9.4 Melting point/freezing point	18-22°C
9.5 Boiling point (or initial boiling point or boiling range)	110-120°C (2mmHg) (OECD 103)
9.6 Flammability (Flame projection)	No data
9.7 Lower and upper explosion limit/flammability limit	No data
9.8 Flash point	91°C (Pensky Martens)
9.9 Auto-ignition temperature	Not tested

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9. Physical and Chemical Properties continued

Physical and Chemical Properties of (E,E)-8,10-Dodecadien-1-ol, Dodecanol and Tetradecanol* (continued):

9.10 Decomposition temperature	No data
9.11 pH	5.6 (pH meter)
9.12 Kinematic viscosity	No data
9.13 Solubility	25.48 g/l (OECD 105)
9.14 Partition coefficient n-octanol/water (log value)	Not tested
9.15 Vapor pressure (includes evaporation rate)	1.428×10^{-2} mmHg (estimated, Antonine's equation)
9.16 Density and/or relative density (Specific gravity)	0.857 g/cm ³ (25°) (pycnometer method)
9.17 Relative vapor density	Not applicable
9.18 Particle characteristics	Not applicable

* Components are members of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

10. Stability and Reactivity

Use this product for its intended purpose as listed in section 1.2. 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. Wear a long-sleeved shirt, long pants, chemical resistant gloves, goggles, shoes and socks. 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.

Applicators and other handlers must wear work clothing consisting of long-sleeved shirt and long pants, shoes and socks, protective gloves and protective eyewear.

10.1 Reactivity

Under normal and anticipated storage and handling conditions as labeled on the product, there is no particular danger of reaction with other substances.

10.2 Chemical Stability

The product is stable under normal and anticipated storage and handling conditions as labeled on the product and under the conditions as reported in Section 7. No hazardous reactions are expected from the use of the product as labeled.

10.3 Possibility of Dangerous Reactions

No particular risk of dangerous reactions under normal and anticipated storage and handling conditions as labeled on the product.

10.4 Incompatible Materials

Store separately from oxidants, peroxides and acids.

Store in the original container.

10.5 Hazardous Decomposition Products

No hazardous decomposition products if stored according to the indicated provisions.

Combustion and thermal decomposition can generate toxic vapors: carbon oxides and hydrocarbons.

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II. Toxicology Information

Toxicology for (E,E)-8,10-Dodecadien-1-ol, Dodecanol and Tetradecanol*:

Acute toxicity	Oral LD ₅₀	>2,500 mg/kg (Rats) >1,075 mg/kg (Quails)	Manufacturer data
	Dermal LC ₅₀	>1,000 mg/kg (Rats)	
	Inhalation (Gas)	No Data	
	Inhalation (Vapor)	38 mg/l (Rat)	
	Inhalation (Mist) LC ₅₀	>2.73 mg/kg (Rats)	
Skin Corrosion/Irritation		Slight to moderate dermal irritation (Rabbits)	Manufacturer data
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	SCLP*
	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	

* Components are members of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

12. Ecological Information

12.1 Ecotoxicity

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

12.2 Persistence and Degradability

(E,E)-8,10-Dodecadien-1-ol*	Rapidly degradable	SCLP*
1-Dodecanol*	Rapidly degradable	
1-Tetradecanol*	Rapidly degradable	

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12. Ecological Information continued

12.3 Bioaccumulative Potential

(E,E)-8,10-Dodecadien-1-ol*	Partition coefficient: n-octanol/water	log Pow: 4.3	SCLP*
1-Dodecanol*	Partition coefficient: n-octanol/water	log Pow: 5.1	
1-Tetradecanol*	Partition coefficient: n-octanol/water	log Pow: 6.19	

12.4 Mobility in Soil

No data. Exposure not likely.

12.5 Other Adverse Effects

None known.

* Components are members of the well-characterized group of SCLPs (i.e., Straight Chain Lepidopteran Pheromones).

13. Disposal Considerations

Use this product for its intended purpose as listed in section 1.2. 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

Flash Point of (E,E)-8,10-Dodecadien-1-ol, Dodecanol and Tetradecanol:

Flash point is 91°C (not established for pheromone dispenser).

Special Precautions for User:

Follow the precautions listed on this SDS and on the product label.

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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 Insecticide, Fungicide, and Rodenticide Act (FIFRA). These requirements differ from the classification criteria and hazard information required for Safety Data Sheets and for workplace labels of non-pesticide chemicals.

The **Hazards to Humans and Domestic Animals** statement on the pesticide label is as follows:

Avoid contact with skin, eyes, or clothing. Harmful if absorbed through skin. Causes moderate eye irritation. Wear a long-sleeved shirt, long pants, chemical resistant gloves, goggles, shoes and socks. 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.

The **Environmental Hazards** statement on the pesticide label is as follows:

For terrestrial uses: 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.

The pesticide label also includes other important information, including the First Aid, the Storage and Disposal and the Directions for Use statements.

Isomate CM Flex is registered with the U.S. EPA under EPA Registration Number 53575-32. This product is categorized under U.S. EPA Toxicity Category: II - WARNING.

Health Canada PMRA:

Isomate CM Flex is registered for sale in Canada under Registration Number 31589 and has been classified in accordance with the hazard criteria of the Controlled Products Regulations. The precautionary information required on the pesticide label is below.

KEEP OUT OF REACH OF CHILDREN

Do not open foil envelopes until ready to use. Avoid contact with 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.

The pesticide label also includes other important information, including the First Aid, the Storage and Disposal and the Directions for Use statements.

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:

October 8, 2025