

MATERIAL SAFETY DATA SHEET

Suterra®

20950 NE Talus Place, Bend, Oregon U.S.A. 97701

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1 - IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Identification of the Preparation:	CheckMate® FCM-F		
Use of the Preparation:	Preparation is a Straight-Chained Lepidopteran Pheromone (SCLP) mating disruptant, sprayable aqueous suspension of microbead dispensers each encapsulating the synthesized components of the naturally occurring False Codling Moth (<i>Cryptophlebia leucotreta</i>).		
Company Identification:	Suterra® LLC 20950 NE Talus Place Bend, Oregon 97701 U.S.A. Tel: + 1 541 388 3688 Fax: + 1 541 388 3705 Contact: Richard W. Fresh	South Africa: Spectrum Research Services Suite 202, Postnet X2600 Houghton 2041 Tel (Cell): 082 490 5614	24 Hour Emergency Response: Bateleur: 083 1233 911 or 0860 333 911
Emergency Telephone Number:	+ 1 866 326 6737 (U.S.A.)	South Africa: <u>In case of Poisoning</u> Gauteng Poison Centre: 0800 111 990 University of Free State: 082 491 0160 Tygerberg Hospital: 021 931 6129	

2 - COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Family of the Preparation:	Not applicable. The preparation consists of polymeric micropsules dispensers containing the False Codling Moth pheromone. The micropsules dispensers are held		
Composition of the Preparation:	E-8-Dodecen-1-yl acetate Z-8-Dodecen-1-yl acetate Water		
Concentration in the Preparation:	E-8-Dodecen-1-yl acetate:	18.08 % w/w	
	Z-8-Dodecen-1-yl acetate:	5.14 % w/w	
	Water:	71.75 % w/w	
Synonyms:	False Codling Moth (FCM) Pheromone		
CAS No.:	E-8-Dodecen-1-yl acetate:	38363-29-0	
	Z-8-Dodecen-1-yl acetate:	28079-04-1	
	Water:	7732-18-5	
EINECS No.:	E-8-Dodecen-1-yl acetate:	253-904-4	
	Z-8-Dodecen-1-yl acetate:	248-823-6	
	Water:	231-791-2	
Empirical Formula:	Z-8-Dodecen-1-yl acetate:	C ₁₄ H ₂₆ O ₂	
	E-8-Dodecen-1-yl acetate:	C ₁₄ H ₂₆ O ₂	
	Water:	H ₂ O	

Toxicological Classification of Preparation: Non classified
 Symbols & Pictograms: No Symbols & Pictograms
 Risk Phrases: No R-Phrases
 Safety Phrases: S 2, 3, 13, 20/21, 45, 29/56*

* Please refer to Heading 16 Other Information for full text of Risk and Safety Phrases.

3 - HAZARDS IDENTIFICATION

None of the ingredients in this preparation meet the definition of "Hazardous Substance" as defined in Council Directive 1999/45/EC (67/548/EEC). The information on this form is furnished as a customer service.

Preparation may be mildly irritating and harmful if ingested. Avoid swallowing preparation.

4 - FIRST AID MEASURES

Eye Contact: Flush with plenty of water for at least 15 minutes. Obtain medical attention if irritation persists.
 Skin Contact: Wash with soap and water. Obtain medical attention if irritation persists.
 Inhalation: Not a likely route of exposure due to preparation form. However, if exposure occurs remove victim to fresh air, give CPR if not breathing. Get medical attention.
 Ingestion: Obtain medical attention if symptoms appear. Give symptomatic and supportive care.

5 - FIRE-FIGHTING MEASURES

Recommended fire-extinguishing media: Not applicable preparation is ~ 73% water.
 Special fire fighting procedures: Not applicable preparation is ~ 73% water.
 Unusual fire and explosion hazards: None.
 Note: Please refer to Heading 8 Exposure Control / Personal Protection

6 - ACCIDENTAL RELEASE MEASURES

In case material is released or spilled: Contain spill by diking. Use absorbent and shovel into a clean container.
 Environmental hazards/waste disposal: Do not contaminate water sources. Dispose of at approved waste disposal facility. Dispose of in accordance with local regulations.
 Note: Please refer to Heading 8 Exposure Control / Personal Protection.

7 - HANDLING AND STORAGE

Handling: Wear protective equipment described under Heading 8 Exposure Control / Personal Protection if exposure conditions warrant. Avoid unnecessary exposure to the skin and eyes. Avoid breathing vapors. Wash hands after handling. Launder contaminated clothing before reuse. Do not allow preparation to contaminate water sources, food or feed.
 Storage: Store in a cool, well-ventilated area until use. Provide means of controlling leaks and spills. Any unused product should be tightly closed and returned to a cool place for storage.

8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values:
 Recommended Exposure Limits: None established.
 Listed as Carcinogen: No.
 Other Health Effects: No known adverse effects expected.
 Health Hazard Categories: EU Non classified. No R-Phrases.

Effects of Overexposure:

Eye Contact:	May cause transient irritation.
Skin Contact:	May cause transient irritation.
Inhalation:	Not a likely route of exposure due to preparation form.
Ingestion:	May cause upset stomach in large doses.
Chronic:	Long-term studies on the concentrated active substances have not been done, however, no adverse effects expected from normal use of preparation.

Exposure Controls:

Respiratory Protection:	None required under normal use conditions.
Hand Protection:	Applicators and other handlers must wear waterproof rubber protective gloves.
Eye Protection:	None required under normal use conditions.
Skin Protection:	Applicators and other handlers must wear long-sleeved shirt and long pants and shoes plus socks.
Ventilation:	None required under normal use conditions.

Note: Personal protection information provided under this heading is based upon label information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid microbeads containing pheromone in an aqueous suspension.
Odour:	Mild fatty odour.
pH:	Neutral. pH ranges from 6.5 to 7.5.
Boiling Point:	120-125° C / 3 mm Hg for pheromone active substances and ~ 100° C for water component.
Melting Point:	Not applicable.
Flash Point:	Not applicable.
Flammability:	Not applicable.
Explosive Properties:	Not applicable.
Oxidizing Properties:	Not applicable.
Vapour Pressure:	5.16×10^{-3} mm Hg @ 20° C for pheromone active substances.
Relative Density:	0.88 ± 0.01 g/ml @ 20° C for pheromone active substances and ~ 0.98 for total preparation.
Solubility:	Not applicable for aqueous suspension. Low solubility for pheromone active substances.
Partition Coefficient:	Very large.
Viscosity:	Not applicable.
Vapour Density:	Not established for preparation. > 1 for pheromone active substances (Air = 1).
Evaporation Rate:	Not established for preparation. < 1 for pheromone active substances (Ethyl Ether = 1).

10 - STABILITY AND REACTIVITY

Preparation is stable. No dangerous stability or reactivity reactions are known or expected from the use of the preparation as labeled.

Conditions to Avoid:	None. Preparation is stable to heat and UV-light.
Materials to Avoid:	Preparation will degrade in the presence of strong oxidizers and oxygen.
Hazardous Decomposition Products:	Carbon oxides formed when burned. Hazardous polymerization will not occur. Preparation is ~ 71% water.

11 - TOXICOLOGICAL INFORMATION

None of the ingredients in this preparation meet the definition of "Hazardous Substance" as defined in Council Directive 1999/45/EC (67/548/EEC). The information on this form is furnished as a customer service. Toxicity data provided derived from USEPA Lepidopteran Pheromone Exemption from the requirement of a tolerance. Therefore, the toxicity of the preparation is determined by the toxicity of the pheromone active substances.

- LD₅₀, Acute Oral, Rat: > 5050 mg/kg.
- LD₅₀, Acute Dermal, Rabbit: > 5050 mg/kg.
- LD₅₀, Intratracheal, Rat: > 5.00 mg/l in air.
- Eye Irritation, Rabbit: Mild irritation in unwashed eye. Minimally irritating in washed eye.
- Skin Irritation, Rabbit: Moderately irritating.
- Ames Mutation Assay: Negative. Non-mutagenic with and without microsomal activation.

12 - ECOLOGICAL INFORMATION

Due to the nature of the pheromone active substance, no effect on soil, water, air, plants, or animals is expected. In the preparation, the pheromone active substances are slowly released and volatilized to the surrounding air through the release limiting polymeric shell of the microcapsule dispensers. The toxicity of the preparation is determined by the toxicity of the pheromone active substances.

13 - DISPOSAL CONSIDERATIONS

- Product: Insure conformity with all applicable provisions. Dispose of in accordance with Community, national or regional provisions.
- Container: Empty containers retain vapor and preparation residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not reuse container. Triple rinse, then puncture and dispose of in the trash.

14 - TRANSPORT INFORMATION

RID/ADR: Not classified.

ICAO/IATA/DGR: Under IATA, preparation is not considered a hazardous material.

15 - REGULATORY INFORMATION

None of the ingredients in this preparation meet the definition of "Hazardous Substance" as defined in Council Directive 1999/45/EC (67/548/EEC). The information on this form is furnished as a customer service. No known adverse health effects expected from the use of this preparation.

16 - OTHER INFORMATION

Preparation is a Straight-Chained Lepidopteran Pheromone (SCLP) mating disruptant, sprayable aqueous suspension of microcapsule dispensers each encapsulating the synthesized components of the naturally occurring False Codling Moth (*Cryptophlebia leucotreta*). Due to the nature of the pheromone active substances, no effect on soil, water, air, plants, or animals is expected.

Safety Phrases:

- S 2: Keep out of reach of children.
- S 3: Keep in a cool place.
- S 13: Keep away from food, drink and animal feedstuffs.
- S 20/21: When using do not eat, drink or smoke.
- S 45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
- S 29/56: Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

This information reflects our level of knowledge up to the date hereof. While this information and recommendation set forth are believed to be accurate as for the date hereof, Suterra® LLC makes no warranty with respect hereto and disclaims all liability from reliance thereon.