



SAFETY DATA SHEET

SECTION I – IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY		
TRADE NAME:	Puffer[®] NOW	
SYNONYMS:	NOW Aerosol	
USE:	Puffer [®] NOW is an aerosol product that emits the pheromone of the navel orangeworm (<i>Amyelois transitella</i>). The product is used in agriculture to control populations of this pest via mating disruption.	
COMPANY IDENTIFICATION:	Suterra LLC 20950 NE Talus Place Bend, Oregon 97701 U.S.A. TEL: (541) 388-3688 FAX: (541) 388-3705	
EMERGENCY TELEPHONE NUMBERS:	LEAK, FIRE, SPILL, OR ACCIDENT: (800) 424-9300 (CHEMTREC – U.S.A. & CANADA) (703) 527-3887 (CHEMTREC – Collect - All Other Countries)	
MEDICAL:	Call Doctor, Poison Control Center or (541) 388-3688	
SECTION II – HAZARDS IDENTIFICATION		
None of the ingredients of this material meet the definition of "Hazardous Chemical" given in OSHA Hazard Communication Regulation 29 CFR 1910.1200(c). The information on this form is furnished as a customer service.		
SECTION III - COMPOSITION		
PRINCIPAL COMPONENT(S)	CAS NO.	CHEMICAL FORMULA
(Z,Z)-11,13-Hexadecadienal	71317-73-2	C ₁₆ H ₂₈ O
1,1,1,2-Tetrafluoroethane	811-97-2	C ₂ H ₂ F ₄

SECTION IV – FIRST AID MEASURES

EYE CONTACT:	Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses if worn after the first five minutes, then continue rinsing eye. Call a doctor or Poison Control Center for advice.
SKIN CONTACT:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a doctor or Poison Control Center for advice.
INHALATION:	Move person to fresh air. If person is not breathing call 911 or an ambulance then give artificial respiration, preferably mouth-to-mouth if possible. Call a doctor or Poison Control Center for advice.
INGESTION:	Call a doctor or Poison Control Center immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

SECTION V – FIREFIGHTING MEASURES

FLASH POINT (Method Used)	FLAMMABLE LIMITS (% by Volume in Air)	LEL	UEL
>13 (closed cup) Product is flammable	Not established.	Not established.	Not established.

EXTINGUISHING MEDIA: Dry Chemical, Foam, Carbon Dioxide (CO₂)

UNUSUAL FIRE AND EXPLOSION HAZARDS: Carbon oxides formed when burned. Hydrocarbon fumes and smoke. Heat will cause pressurized containers to explode.

ADVICE FOR FIREFIGHTERS: Evacuate area of all unnecessary personnel. Use standard fire fighting procedures. Containers will explode if heated to high enough temperatures. Use water fogging nozzle to cool containers.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Since the product is contained in individual steel pressurized containers they may be picked up and reused. If the containers are dented they may be returned. If the container is punctured the resulting release may be washed up with detergent and water. Keep out of water sources or sewers.

SECTION VII – HANDLING AND STORAGE

Wear protective equipment described in Section VIII. Avoid skin and eye contact. Avoid breathing vapors. Store in cool, well ventilated area. Protect from ignition. Wash hands after handling. Do not allow product to contaminate water sources, food or feed.

SECTION VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

RECOMMENDED EXPOSURE LIMITS: None established.

LISTED AS CARCINOGEN BY NTP, IARC, OR OSHA: No.

OTHER HEALTH EFFECTS: No known adverse effects expected.

HEALTH HAZARD CATEGORIES: EPA Toxicity Category: III - CAUTION.

EFFECTS OF OVEREXPOSURE	
EYE CONTACT:	Pheromone is moderately to severely irritating. Propellant can freeze-burn the eyes if directed at eyes.
SKIN CONTACT:	Pheromone is moderately irritating. Propellant can freeze-burn skin if directed at skin.
INHALATION:	Avoid breathing vapors when in confined areas.
INGESTION:	Harmful if ingested. Avoid swallowing product.
CHRONIC:	Long-term studies have not been done on the concentrated active ingredient, however, no adverse effects expected from normal use.
EXPOSURE CONTROLS	
RESPIRATORY PROTECTION:	Not generally required under normal use conditions.
PROTECTIVE GLOVES:	Use chemical resistant gloves when handling dispensers.
EYE PROTECTION:	Wear protective eyewear.
OTHER PROTECTIVE EQUIPMENT:	Not generally required under normal use conditions.
VENTILATION:	Use adequate ventilation.
NOTE:	Personal protection information provided in this Section 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.
SECTION IX –PHYSICAL AND CHEMICAL PROPERTIES	
APPEARANCE	Aerosol canister
ODOR	Waxy, solvent odor.
MOLECULAR WEIGHT	Not established for end-use aerosol. 236 for NOW pheromone.
pH	Not established
SOLUBILITY IN WATER	Not applicable for end-use aerosol. Low solubility for pheromone.
BOILING POINT	78°C for the concentrate.
MELTING POINT	Not applicable for end-use aerosol.
FLASH POINT	>13 (Closed cup).
FLAMMABILITY	Product is flammable.
SPECIFIC GRAVITY (H ₂ O = 1)	0.94-0.98 for aerosol
EXPLOSIVE PROPERTIES	Not established
OXIDIZING PROPERTIES	Not established

SECTION X – STABILITY AND REACTIVITY DATA

STABILITY:	The product is stable. No dangerous reactions are expected. Pheromone is sensitive to heat and light.
INCOMPATIBILITY:	Pheromone to strong oxidizing agents. Canister to heat or open flame.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon oxides formed when burned. Hydrocarbon fumes and smoke.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION XI – TOXICOLOGICAL INFORMATION

Due to the formulation type, no studies have been performed on the end-use product. Information about the pheromone active ingredient is reported here:	
<u>Navel Orangeworm (NOW) Pheromone:</u>	
LD ₅₀ , Oral, Rat:	> 5000 mg/kg
LD ₅₀ , Dermal, Rabbit:	> 2020 mg/kg
LD ₅₀ , Intratracheal, Rat:	> 5.00 mg/L
Eye Irritation, Rabbit:	Moderate to severe.
Skin Irritation, Rabbit:	Moderately irritating.

SECTION XII – ECOLOGICAL INFORMATION

Due to the formulation type, no studies have been performed on the end-use product. The ecological toxicity of the pheromone will be similar to the toxicity of other Straight-Chain Lepidopteran pheromones, i.e.:
Adverse effects on non target organisms (mammals, birds, and aquatic organisms) are not expected because the pheromone is released in very small amounts to the environment and acts on select species of insects.

SECTION XIII – DISPOSAL CONSIDERATIONS

ENVIRONMENTAL HAZARDS/ WASTE DISPOSAL: Used canisters should be wrapped in newspaper, placed in garbage bags and discarded. Do not reuse containers. Discard in trash. Dispose of in accordance with local, state, and federal regulations.
USED DISPENSERS AND CONTAINER DISPOSAL: Used containers should be wrapped in newspaper, place in garbage bag and discarded in trash. Do not reuse containers. Discard in trash.

SECTION XIV – TRANSPORT INFORMATION

TRANSPORT BY GROUND:

Description: Aerosols, flammable, (each not exceeding 1 L capacity)
Hazard Class: 2.1
Identification Numbers: UN1950
Packing Group: Not Applicable
Flashpoint: >13 (closed cup)

TRANSPORT BY AIR:

Description: Aerosols, flammable
Hazard Class: 2.1
Identification Numbers: UN1950
Hazard Label(s): Flammable gas
Packing Group: Not Applicable
Flashpoint: >13 (closed cup)

SECTION XV – REGULATORY INFORMATION

REGULATORY LICENSE: This chemical 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 safety data sheets (SDSs), 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 the Directions for Use.

CAUTION: Harmful if swallowed, inhaled or absorbed through the skin. Causes moderate eye and skin irritation. Avoid breathing vapor. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse.

U.S. EPA Registration Number 73479-3
Product is categorized under U.S. EPA Toxicity Health Hazard Category III – CAUTION

SECTION XVI – OTHER INFORMATION

Suterra LLC is unaware of any local, state or federal regulations which define the active ingredient as hazardous.

As of the preparation date, this product did not contain a chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

While this information and recommendations set forth are believed to be accurate as of the date hereof, Suterra LLC makes no warranty with respect hereto and disclaims all liability from reliance thereon.

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Preparer: T. Tipton