SAFETY DATA SHEET

SECTION I – IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

TRADE NAMES:	**Puffer® NOW** **CheckMate® Puffer® NOW Pro**
SYNONYMS:	Navel Orangeworm Aerosol
USE:	Navel Orangeworm Puffers are aerosol products that emit the pheromone of the navel orangeworm (*Amyelois transitella*). The product is used in agriculture to control populations of this pest via the mating disruption technique.
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

The following determinations have been made according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals:

GHS Signal Word: WARNING

GHS Symbols:

GHS Hazard Statements:
Harmful if inhaled
Causes skin irritation
Causes eye irritation
Flammable aerosol

GHS Precautionary Statements:
Avoid breathing vapor. Use only outdoors or in a well ventilated area.
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.
Use protective gloves and protective garments to prevent excessive skin contact when handling.
Keep away from heat/sparks/open flames/hot surfaces. No Smoking. Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.

GHS Response Statements:
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a Poison Control Center or doctor for advice if you feel unwell.
If on skin or clothing: Take off contaminated clothing and wash before reuse. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for advice if you feel unwell, or if skin irritation occurs.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention.

GHS Storage Statements:
Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.

SECTION III - COMPOSITION

PRINCIPAL COMPONENT(S)	CAS NO.	CHEMICAL FORMULA	APPROXIMATE w/w%
(Z,Z)-11,13-Hexadecadienal	71317-73-2	$C_{16}H_{28}O$	< 1
Heptane	142-82-5	C_7H_{16}	50-60
1,1,1,2-Tetrafluoroethane	811-97-2	$C_2H_2F_4$	40-50

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 and continue rinsing. 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
Aerosol flame projection is 15-30 cm, with no flashback.	Not established	Not established.	Not established.

EXTINGUISHING MEDIA:	Dry Chemical, Foam, Carbon Dioxide (CO_2)
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, contain the spill. Make a dike around the outside edges of the spill. Use absorbent materials such as vermiculite, cat litter or spill pillows. The neutralized spill residue with the absorbent should be scooped, swept, or otherwise placed into a waste bucket or other container. The neutralized spill residue must be disposed of in accordance with appropriate Federal, State, local regulation. Any remaining residues may be washed up with detergent and water. Avoid dispersal of spilled material and runoff or contact with soil, water sources, drains and 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 for end-use product. For undiluted 1,1,1,2-Tetrafluoroethane / propellant: AIHA WEEL (United States 5/2010) TWA 1000 ppm 8 hours.
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 mildly 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:	Due to product form ingestion is not considered likely. Harmful if ingested. Avoid swallowing product.
CHRONIC:	Long-term studies have not been done on the concentrated active ingredient, however, no adverse effects expected.

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 (<0.09 µg/mL)
BOILING POINT	Not applicable for end-use aerosol. 311.5 ± 0.2 °C for NOW pheromone.
MELTING POINT	Not applicable for end-use aerosol. 5.9 ± 0.1 °C for NOW pheromone.
FLASH POINT	No data for end-use aerosol. 152.3 ± 0.8 °C for NOW pheromone.
FLAMMABILITY	Aerosol flame projection is 15 to 30 cm, with no flashback.
SPECIFIC GRAVITY (H_2O = 1)	0.96
EXPLOSIVE PROPERTIES	No explosive ingredients
OXIDIZING PROPERTIES	Not an oxidant or reductant

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.
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:

Specific test values not established for NOW pheromone. Using the U.S. EPA Straight-Chained Lepidopteran Pheromone (SCLP) similarity argument, the toxicity of the subject pheromone would be placed into EPA toxicity category III-IV: CAUTION. The oral and dermal toxicity would be estimated to be higher than 5,000 mg/kg. Eye and skin irritation would be estimated from minimal to moderate, respectively.

This SCLP is exempted from the requirement of a tolerance on food and feed (40 CFR § 180.1153 / Federal Register 71: 45395-45400 August 9, 2006).

Navel Orangeworm (NOW) Pheromone:

LD_{50}, Oral, Rat:	No data found
LD_{50}, Dermal, Rabbit:	No data found
LD_{50}, Intratracheal, Rat:	No data found
Eye Irritation, Rabbit:	No data found
Skin Irritation, Rabbit:	No data found
Ames Mutation Assay:	No data found
Sensitization, Guinea Pig:	No data found
Carcinogenicity:	No data found
Reproductive toxicity:	No data found
Target organ toxicity:	No data found

SECTION XII – ECOLOGICAL INFORMATION

Due to the formulation type, no studies have been performed on the end-use product. Information about the pheromone active ingredient blend is reported here:

Specific test values for Navel Orangeworm (NOW) Pheromone have not been established. Comparison with chemically similar synthetically produced replicas of naturally occurring Straight-Chained Lepidopteran Pheromone (SCLP) pheromones would indicate little, if any, non-target organism toxicity, and no significant environmental fate concerns for soil, water or air.

SECTION XIII – DISPOSAL CONSIDERATIONS

ENVIRONMENTAL HAZARDS/ WASTE DISPOSAL:

Used canisters should be wrapped in newspaper, placed in garbage bags and discarded. Do not reuse or refill containers. Discard in trash or at an approved waste disposal facility. If can is empty offer for recycling. Dispose of in accordance with local, state, and federal regulations.

USED DISPENSERS AND CONTAINER DISPOSAL:

Nonrefillable container. Do not reuse or refill this container. Remove empty container from cabinet, wrap in newspaper, place in garbage bag and discard in trash or at an approved waste disposal facility. Do not puncture or incinerate. If can is empty offer for recycling.

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:	Aerosol flame projection is 15-30 cm, with no flashback.

TRANSPORT BY AIR:

Description:	Aerosols, flammable
Hazard Class:	2.1
Identification Numbers:	UN1950
Hazard Label(s):	Flammable gas
Packing Group:	Not Applicable
Flashpoint:	Aerosol flame projection is 15-30 cm, with no flashback.

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.

Puffer® NOW U.S. EPA Reg. No. 73479-3
CheckMate® Puffer® NOW Pro EPA Reg. No. 73479-15

SECTION XVI – OTHER INFORMATION

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.

Version Date: 2017-01-19 Supersedes: 11/08/2016
Corrected ®
Preparer: R. Trager