

Material Safety Data Sheet**Product No. 81550 PELCO® EFFA Duster 4A****Issue Date (03-19-09)****Review Date (09-11-17)****Section 1: Product and Company Identification****Product Name:** Inert Dusting Gas

Synonym: Dusting Gas, HFC – 134a

Company Name**Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477**

Inside USA and Canada 1-800-237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Outside USA and Canada 1-530-243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

CHEMTREC USA and Canada Emergency Contact Number 1-800-424-9300 24 hours a day**CHEMTREC Outside USA and Canada Emergency Contact Number +1-703-741-5970 24 hours a day****Section 2: Composition / Information on Ingredients**

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
1,1,1,2-Tetrafluoroethane (811-97-2) *	100	None	None	No	No	No

*Supplier OEL: 1000 PPM

Section 3: Hazard Identification**Emergency overview**

Appearance: Clear, colorless, volatile liquid.

Immediate effects: Warning! High concentration of vapor can reduce oxygen available for breathing. Harmful if inhaled. May decompose on contact with flames or extremely hot metal surfaces to produce toxic and corrosive products.

Potential health effects

Primary Routes of entry: Inhalation.

Signs and Symptoms of Overexposure: Acute Toxicity: Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

Eyes: Liquid contact can cause irritation, which may be severe.

Skin: Prolonged or repeated contact with liquid can cause freezing of skin tissues, defatting, skin irritation and dermatitis.

Ingestion: Ingestion is unlikely because of the physical properties and is not expected to be hazardous.

Inhalation: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness).

Chronic Exposure: NIF

Chemical Listed As Carcinogen Or Potential Carcinogen: No

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures**If accidental overexposure is suspected**

Eye(s) Contact: Immediately flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact: In case of cold burns (frostbite) caused by rapidly expanding gas or vaporizing liquids, get medical attention promptly.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

Ingestion: Ingestion is unlikely because of the physical properties and is not expected to be hazardous. Do not induce vomiting unless instructed to do so by a physician.

Note to physician

Treatment: Because of the possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution and only in situations of emergency life support. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: NA

General Hazard: Aerosol cans may erupt with force at high temperatures. Do not heat or store above 120 °F/49 °C.

Flammable Limits: NA (Based on ASHRAE Standard 34 with match ignition.)

Auto-ignition point: > 750° C (1382° F).

Fire Extinguishing Media: As appropriate for combustibles in area.

Special Fire Fighting Procedures: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear. Use water spray to cool containers

Unusual Fire and Explosion Hazards: This product is not flammable at ambient temperatures and atmospheric pressure. However, this material may become combustible when mixed with air under pressure and exposed to strong ignition sources.

Hazardous combustion products: May form hydrochloric and hydrofluoric acids – possibly carbonyl halides, when exposed to high temperatures.

DOT Class: ORM-D, compressed gas, 2.2.

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Evacuate area. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area well and avoid breathing vapors. Spills and releases may have to be reported to Federal and/or local authorities.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be Taken in Handling and Storage: Follow standard safety precautions for handling and use of compressed gas cylinders.

Storage temperature: Store in a cool place in original container and protect from sunlight. Do not heat or store above 120 °F/49 °C.

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Local exhaust ventilation may be necessary to control any air contaminants to within their TLV's during use of this product.

Personal Protection Equipment

Respiratory protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Protective gloves: Gloves recommended: Insulated PVA, Neoprene or Butyl rubber should be used.

Skin protection: Skin contact with liquid may cause frostbite. General work clothing and gloves should provide adequate protection. If prolonged contact with the liquid or gas is anticipated, insulated gloves should be used.

Eye protection: Wear safety glasses with side shields (or goggles) or face shield.

Additional clothing and/or equipment: ND

Exposure Guidelines

See Composition/Information on Ingredients (Section 2)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Gas, or Clear, colorless, volatile liquid.

Odor (threshold): Faint ethereal odor.

Specific Gravity (H₂O=1): 1.24

Vapor Pressure (mm Hg): 70 PSIG at 21.1° C (70° F)

Vapor Density (air=1): 3.5

Percent Volatile by volume: 100 at 20° C

Evaporation Rate (Ethyl ether=1): >1

Boiling Point: -26.2° C (-15.1°F)

Freezing point / melting point: -101° C (-149.8° F)

pH: NA

Solubility in Water: 0.95%

Molecular Weight: 102.0

Formula: CH₂CFC₃

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Contact with open flame, heat. Reactive alkali metals, strong acids & bases.

Materials to Avoid (Incompatibility): Chemically active metals: potassium, calcium, powdered aluminum, magnesium, barium and zinc.

Hazardous Decomposition Products: May form hydrochloric and hydrofluoric acids – possibly carbonyl halides, when exposed to high temperatures.

Hazardous Polymerization: No

Section 11: Toxicological Information

Results of component toxicity test performed: Inhalation LC₅₀ : >500,000 ppm, 4 hour; Sensitization: Cardiac sensitization threshold (dog) 80,000 ppm. NEOL – 50,000 ppm. Subchronic inhalation (rat) NOEL – 50,000 ppm. Chronic NOEL – 10,000 ppm. Mutagenicity: Collective data indicate non-mutagenic. Teratogenic effects: NOEL (rat and rabbit) – 40,000 ppm.

Human experience: NIF

This product does not contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen. NIF

Section 12: Ecological Information

Ecological Information: Degradability (BOD): This material is a gas a room temperature; therefore, it is unlikely to remain in water.

Distribution: Octanol Water Partition Coefficient: Log P = 1.06

Chemical Fate Information: NIF

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: ND. Recycle or reclaim if possible.

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information

US DOT Information: Proper shipping name: Consumer Commodity ORM-D

Hazard Class: None

Packaging group: NA

UN Number: NA

Other Shipping Information: Must place Consumer Commodity ORM-D on box and must have a copy of the DOT-E 10232 with each shipment.

IATA: Proper shipping name: 1,1,1,2-Tetrafluoroethane

Hazard Class: 2.2

Packing group: NA

UN Number: UN3159

Other Shipping Information: Must have a copy of the DOT-E 10232 with each shipment.

IMO: Proper shipping name: 1,1,1,2-Tetrafluoroethane

Class: 2.2

UN Number: UN3159

Packing group: NA

Marine Pollutant: No

Canadian TDG: 1,1,1,2-Tetrafluoroethane

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

SARA: 313 Reportable Ingredients: Not considered a SARA 313 "Toxic Chemical"

SARA Title III: 311/312 Hazard Categories: Immediate/ Pressure

Pressure Generating: Yes. Acute: Yes

RCRA: NIF

TSCA: This product is listed on the TSCA Inventory.

CERCLA: NA

State Regulations

California Proposition 65: None

International Regulations

Canada WHMIS: Class A, Class D2B

Europe EINECS Numbers: 223770

Section 16: Other Information

Label Information: Keep out reach of children. Contents under pressure. Overheating may cause violent bursting and serious injury. Do not apply to open flame. Do not heat or store above 113 °F. **Use ONLY with Fullam FFFA Duster Valve and Nozzle Assembly.** Do not allow can pressure to reach 260 psig.

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: NIF

NFPA Hazard Rating: Health: **1**; Fire: **0**; Reactivity: **1**

HMIS Hazard Rating: Health: **1**; Fire: **0**; Physical Hazard: **1**

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Abbreviations used in this document

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these

materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

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