



Material Safety Data Sheet

Product No. 27219 PELCO Histo/Cyto-freeze™

Issue Date (11-12-03)

Review Date (06-01-12)

Section 1: Product and Company Identification

Product Name: PELCO Histo/Cyto-freeze™

Synonym:

Company Name

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

Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle 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	NE	NE	No	No	No

Ingredients are not considered hazardous under the Federal Hazard Communication Standard.

DuPont AEL (Acceptable Exposure Limit): 1000 PPM, 8 & 12 Hr. TWA.

WEEL (AIHA): 1000 PPM, 8 Hr. TWA.

EPA's inhalation reference concentration (daily inhalational exposure likely to be without an appreciable risk of deleterious effects during a lifetime) for 1,1,1,2-tetra-fluoroethane is 80 mg/m³. See Section 14.

Section 3: Hazard Identification

Emergency overview

Appearance: Clear, colorless gas. CONTENTS UNDER PRESSURE.

Immediate effects: Aerosol. Pressurized container may explode when exposed to heat or flame. Health injuries are not known or expected under normal use.

Potential health effects

Primary Routes of entry: Inhalation, eyes, skin.

Signs and Symptoms of Overexposure: ND

Eyes: Irritant. Liquid may cause freezing.

Skin: Contact with liquid may cause freezing or frost bite.

Ingestion: Not considered a potential route of exposure.

Inhalation: High concentrations of vapor are harmful and may cause heart irregularities, unconscious, or death.

Chronic Exposure: ND

Chemical Listed As Carcinogen Or Potential Carcinogen: None

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: Flush eyes with large amounts of water and allow to evaporate. Get medical attention if irritation persists.

Skin Contact: Wash with copious amounts of water for at least 15 minutes. Contact medical attention if complications arise.

Inhalation: If unconscious, remove to fresh air and call a physician.

Ingestion: Have victim rinse mouth thoroughly with water.

Note to physician

Treatment: NIF

Medical Conditions generally Aggravated by Exposure: Preexisting diseases of the central nervous system may be aggravated by exposure to this product.

Section 5: Fire Fighting Measures

Flash Point: Not a fire hazard. The product is not flammable.

Flammable Limits: None

Auto-ignition point: >743 °C

Fire Extinguishing Media: Carbon dioxide, foam and/or dry chemical may be used.

Special Fire Fighting Procedures: Containers should be cooled with water to prevent vapor pressure build up. Use equipment or shielding, as required, to protect personnel from containers bursting, rupturing or venting.

Unusual Fire and Explosion Hazards: At elevated temperatures (over 54C-130F) containers exposed to direct flame or heat contact should be cooled with water to prevent weakening of container structure.

Hazardous combustion products: Oxides of carbon. Hydrofluoric acid, carbonyl fluoride, and additional toxic chemicals may be formed in small amounts.

DOT Class: ORM-D

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Remove all sources of ignition and provide good ventilation.

Waste Disposal Methods: Do not puncture or incinerate containers. When contents are depleted continue to depress button until all gas is expelled. Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be Taken in Handling and Storage: Avoid breathing vapor. Keep away from heat and flame. Use with adequate ventilation. Do not puncture or incinerate

containers. Do not expose to direct sunlight or store at temperatures above 130F (54C).
Store as Level 3 Aerosol (NFPA 30B).
Storage temperature: Ambient.
Storage Pressure: ND

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Provide sufficient mechanical ventilation to maintain exposure below TLV(s). Overexposure to vapors and mist may be prevented by ensuring ventilation controls, local exhausts and/or fresh air entry.

Personal Protection Equipment

Respiratory protection: None if adequate ventilation is maintained.

Protective gloves: Optional: Chemical resistant gloves.

Skin protection: Wear impervious clothing to prevent skin contact.

Eye protection: Chemical safety glasses are recommended.

Additional clothing and/or equipment: ND

Exposure Guidelines

See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Clear, colorless, compressed liquefied gas.

Odor (threshold): None

Specific Gravity (H₂O=1): 1.21

Pressure (mm Hg): 72-82 psig @ 70° F

Vapor Density (air=1): 3.6

Percent Volatile by volume: ND

Evaporation Rate (CCl₄ = 1) : >1

Boiling Point: -14.8 °F (-26.1 °C) estimated.

Freezing point / melting point: 101 ° C

pH: NA

Solubility in Water: 0.15 Wt% @25 °C

Molecular Weight: 102.03

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Do not store above 54C (130F). Keep away from heat, direct sunlight, open flames, glowing surfaces or sparks. Dropping containers may cause bursting.

Materials to Avoid (Incompatibility): Oxidizing agents. Alkali or alkaline earth metals – powdered Al, Zn, Be, etc.

Hazardous Decomposition Products: Hydrofluoric acid, carbonyl fluoride, oxides of carbon and additional toxic chemicals may be formed in small amounts.

Hazardous Polymerization: None

Section 11: Toxicological Information

Results of component toxicity test performed: 1,1,1,2-Tetrafluoroethane (811-97-2): Rat (Inhalation) 4 hr, ALC: 567,000 PPM.

Animal Data: A short duration spray of vapor produced very slight eye irritation. This material is a slight skin irritant, but not a skin sensitizer.

Human experience: OSHA: Human experience: Because of its use in metered-dose inhalers, 1,1,1,2-tetrafluoroethane has been studied in human volunteers with single-breath inhalation and one-hour exposures to concentrations up to 8000 ppm, which caused no respiratory irritation or adverse effects on pulse, blood pressure, lung function, electrocardiogram or on the CNS. Not expected to be hazardous by OSHA criteria. This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: Ecotoxicological Information: This product has no known ecotoxicological effects.

Chemical Fate Information: NIF

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: Contents under pressure. Do not puncture, incinerate or crush. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR261.4(b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. . 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

Hazard Class: ORM-D

Packaging group: NA

UN Number: NA

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

Hazard Class: 2.2

Packing group: NA

UN Number: UN3159

Receptacle must meet IATA regulations

IMO: Proper shipping name: Consumer Commodity

Class: ORM-D

UN Number: NA

Packing group: NA

Marine Pollutant: None

Canadian TDG: Proper shipping name: 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: Section 311, 312: Acute: Yes, Chronic: Yes, Fire: No, Reactivity: No. Pressure: Yes

SARA Title III: No

RCRA: ND

TSCA: Ingredients of this product are listed on the EPA/TSCA Inventory of Chemical Substance.

CERCLA: No

State Regulations

California Proposition 65: None

International Regulations

Canada WHMIS: Listed Proper shipping name: 1,1,1,2-Tetrafluoroethane: compressed gas

Europe EINECS Numbers: 212-377-0

Section 16: Other Information

Label Information: Contents under pressure, non-flammable gas. Inhalation can be Harmful. Avoid contact with eyes and skin. Liquid contact may cause freezing or frostbite.

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: ND

HMIS® Hazard Rating: Health: **0**; Fire: **0**; Physical hazard: **0**

(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.