

# MATERIAL SAFETY DATA SHEET

Date Issued: 08/22/2012  
MSDS No: 1747-10S

## Anti-Static Freeze Spray

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Anti-Static Freeze Spray  
**PRODUCT DESCRIPTION:** Anti-Static Freeze Spray  
**PRODUCT CODE:** 1747-10S  
**ACTIVE INGREDIENT(S):** 1,1,1,2-Tetrafluoroethane

#### MANUFACTURER

Tech Spray, LLC  
1001 NW 1st Street  
P.O. Box 949  
Amarillo, TX 79107

#### 24 HR. EMERGENCY TELEPHONE NUMBERS

**CHEMTREC CCN#21858 (US Transportation) :**(800) 424 - 9300  
**CANUTEC (Canadian Transportation) :**(613) 996 - 6666  
**Emergency Phone :**(800) 858 - 4043

### 2. HAZARDS IDENTIFICATION

#### HAZARD DESIGNATION

"Xn" - Harmful  
R20/22 - Harmful by inhalation and if swallowed.

#### EMERGENCY OVERVIEW

**PHYSICAL APPEARANCE:** Clear, Colorless, Volatile Liquid

**IMMEDIATE CONCERNS:** Warning! High concentrations 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. Very mild (if any) eye/skin irritant.

#### POTENTIAL HEALTH EFFECTS

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

**SKIN:** Liquid contact could cause frostbite.

**INGESTION:** Not likely to be ingested.

**INHALATION:** High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**EYES:** Can cause severe eye irritation.

**SKIN:** Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite ("cold" burn).

**INGESTION:** Not a likely route of exposure.

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

**ACUTE TOXICITY:** Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

**CHRONIC EFFECTS:** Not Established

**CARCINOGENICITY:** Not Established

**MUTAGENICITY:** None known.

#### REPRODUCTIVE TOXICITY

**REPRODUCTIVE EFFECTS:** Not yet Determined

**TERATOGENIC EFFECTS:** Contains Methanol which has been established as a teratogen by inhalation. See

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Sec.11 for details.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
1,1,1,2-Tetrafluoroethane	98	811-97-2	212-337-0
Methanol	2	67-56-1	200-659-6

### 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

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

**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.

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

**NOTES TO PHYSICIAN:** 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.

### 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** Not Applicable

**FLAMMABLE LIMITS:** None\*

**AUTOIGNITION TEMPERATURE:** > 750°C (1382°F)

**FLAMMABLE CLASS:** Not Applicable

**FLAME PROPAGATION OR BURNING RATE OF SOLIDS:** Not Applicable

**EXTINGUISHING MEDIA:** As appropriate for combustibles in area.

**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.

**FIRE FIGHTING PROCEDURES:** Use water spray to cool containers.

**FIRE FIGHTING EQUIPMENT:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

**COMMENTS:** \*Based on ASHRAE Standard 34 with match ignition.

### 6. ACCIDENTAL RELEASE MEASURES

**GENERAL PROCEDURES:** Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**RELEASE NOTES:** Spills and releases may have to be reported to Federal and/or local authorities.

### 7. HANDLING AND STORAGE

**HANDLING:** Follow standard safety precautions for handling and use of compressed gas cylinders.

**STORAGE:** Store in a cool place in original container and protect from sunlight.

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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		Supplier OEL	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
1,1,1,2-Tetrafluoroethane	TWA	NE		NE		1,000 ppm [1]	[1]
Methanol	TWA	S 200 ppm [2]	260 mg/m <sup>3</sup> [2]	S 200 ppm	262 mg/m <sup>3</sup>	NL ppm	NL mg/m <sup>3</sup>
	STEL	250 ppm	310 mg/m <sup>3</sup>	250 ppm	328 mg/m <sup>3</sup>	NL ppm	NL

**OSHA TABLE COMMENTS:**

- \* (AEL)=Acceptable Exposure Limit as established by the manufacture
- S = Skin

**ENGINEERING CONTROLS:** Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

#### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses with side shields (or goggles) and a face shield.

**SKIN:** Skin contact with liquid may cause frostbite. General work clothing and gloves (leather) should provide adequate protection. If prolonged contact with the liquid or gas is anticipated, insulated gloves constructed of PVA, neoprene or butyl rubber should be used. Any contaminated clothing should be promptly removed and washed before reuse.

**RESPIRATORY:** 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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Boiling Point (°C)	Freezing Point (°C)	Solubility in Water	Specific Gravity
1,1,1,2-Tetrafluoroethane	-26.4	-101	NEGLIGIBLE	1.21

**PHYSICAL STATE:** Gas

**ODOR:** Faint ethereal odor

**pH:** Neutral

**PERCENT VOLATILE:** 100 at 20°C (68°F)

**VAPOR PRESSURE:** 85.8 psi at 21.1°C (70°F)

**VAPOR DENSITY:** 3.5 (Air=1)

**BOILING POINT:** -26.2°C (-15.1°F)

**FREEZING POINT:** -101°C (-149.8°F)

**FLASHPOINT AND METHOD:** Not Applicable

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**SOLUBILITY IN WATER:** Negligible  
**EVAPORATION RATE:** > 1 (CCL4=1)  
**SPECIFIC GRAVITY:** 1.220 (water=1) at 20°C (68°F)  
**MOLECULAR WEIGHT:** 102

### 10. STABILITY AND REACTIVITY

**STABLE:** Yes  
**HAZARDOUS POLYMERIZATION:** No  
**STABILITY:** Stable.  
**POLYMERIZATION:** Will not occur.  
**CONDITIONS TO AVOID:** Stable. However, may decompose if heated.  
**HAZARDOUS DECOMPOSITION PRODUCTS:** May form Hydrofluoric acid or Carbonyl Halides.  
**INCOMPATIBLE MATERIALS:** Chemically active metals: potassium, calcium, powdered aluminum, magnesium and zinc.

### 11. TOXICOLOGICAL INFORMATION

#### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
1,1,1,2-Tetrafluoroethane			> 500000 ppm
Methanol	6.2 to 12.98 mg/kg	16 g/kg	64000 ppm

**EYES:** Moderately to severely irritating  
**DERMAL LD<sub>50</sub>:** Mildly to moderately irritating.  
**ORAL LD<sub>50</sub>:** Oral Rat LD50: 5628 mg/kg for methanol.  
**INHALATION LC<sub>50</sub>:** > 500000 ppm, 4-hour  
**Notes:** Inhalation Rat LC50: 64000 ppm/4H for methanol.

**EYE EFFECTS:** High vapor concentrations may cause moderate to severe eye irritation.

**CHRONIC:** Chronic NOEL - 10,000 ppm

**SUBCHRONIC:** Subchronic inhalation (rat) NOEL - 50,000 ppm

#### CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
1,1,1,2-Tetrafluoroethane	NOT LISTED	NOT LISTED	NOT LISTED
Methanol	NOT LISTED	NOT LISTED	NOT LISTED

**IARC:** NOT listed

**OSHA:** NOT listed

**REPRODUCTIVE EFFECTS:** Not Established

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**TERATOGENIC EFFECTS:** Teratogenic NOEL (rat and rabbit) - 40,000 ppm

**MUTAGENICITY:** Collective data indicate non-mutagenic.

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Degradability (BOD): This material is a gas at room temperature; therefore, it is unlikely to remain in water.

**DISTRIBUTION:** Octanol Water Partition Coefficient: Log P=1.06

### 13. DISPOSAL CONSIDERATIONS

**GENERAL COMMENTS:** 1,1,1,2-tetrafluoroethane is subject to U.S. Environmental Protection Agency Clean Air Act Regulations, Section 608 in 40 CFR Part 82 regarding refrigerant recycling.

### 14. TRANSPORT INFORMATION

#### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** CONSUMER COMMODITY, ORM-D, DOT-SP 15146

**PRIMARY HAZARD CLASS/DIVISION:** 9

**UN/NA NUMBER:** NA

**PACKING GROUP:** NA

**OTHER SHIPPING INFORMATION:** Must have a copy of DOT-SP 15146 with each shipment.

**SPECIAL SHIPPING NOTES:** Domestic Shipments Only. For International shipments use 1,1,1,2-Tetrafluoroethane, UN3159, 2.2; Pkg. Instr. 200.; Authorization: DOT-SP 15146.; **NOTE:** Copy of the Exemption is required with all shipments.; **HAZARD LABEL:** Non-Flammable Gas.; ["LTD QTY of class 2" when <120mL (5 oz)]

#### ROAD AND RAIL (ADR/RID)

**KEMLER NUMBER:** UN3159

**HAZARD CLASS:** 2.2

#### AIR (ICAO/IATA)

**SHIPPING NAME:** CONSUMER COMMODITY, ORM-D-AIR, DOT-SP 15146

**UN/NA NUMBER:** ID8000

**PRIMARY HAZARD CLASS/DIVISION:** 9

**PACKING GROUP:** NA

**ERG:** #12

#### VESSEL (IMO/IMDG)

**SHIPPING NAME:** 1,1,1,2-Tetrafluoroethane

**UN/NA NUMBER:** UN3159

**PRIMARY HAZARD CLASS/DIVISION:** 2.2

**LIMITED QUANTITY:** 120 mL

### 15. REGULATORY INFORMATION

#### UNITED STATES

**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

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**311/312 HAZARD CATEGORIES:** IMMEDIATE / PRESSURE

**FIRE:** No **PRESSURE GENERATING:** Yes **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** No

**313 REPORTABLE INGREDIENTS:** Methanol (<1%)

### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Methanol	2	67-56-1

### 302/304 EMERGENCY PLANNING

**EMERGENCY PLAN:** Methanol (#67-56-1)

### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

**CERCLA REGULATORY:** Releases to air, land, or water which exceed the RQ must be reported to the National Response Center [(800)424-8802] and to your Local Emergency Planning Committee. Methanol (#67-56-1)

Chemical Name	Wt.%	CERCLA RQ
Methanol	2	5000 lbs.

**CERCLA RQ:** 5000 lbs

### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
1,1,1,2-Tetrafluoroethane	811-97-2
Methanol	67-56-1

**TSCA REGULATORY:** This product is listed on the TSCA Inventory.

### CLEAN AIR ACT

Chemical Name	Wt.%	CAS
1,1,1,2-Tetrafluoroethane	98	811-97-2

### OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

**29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS:** None of the chemicals in this product are considered highly hazardous by OSHA.

**CALIFORNIA PROPOSITION 65:** This product does not contain any chemicals known to the State of California to cause cancer.

**RCRA STATUS:** U154

**OSHA HAZARD COMM. RULE:** Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### CANADA

**WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**WHMIS CLASS:** Class A, Class D2B.

**DOMESTIC SUBSTANCE LIST (INVENTORY):** All components of this product are listed on the Canadian DSL.

### EUROPEAN COMMUNITY

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### EEC LABEL SYMBOL AND CLASSIFICATION



"Xn" - Harmful  
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**GENERAL COMMENTS:** 1,1,1,2-tetrafluoroethane is subject to U.S. Environmental Agency Clean Air Act Regulations, (40CFR Part 82).

**COMMENTS WARNING:** Contains 1,1,1,2-tetrafluoroethane (HFC-134a), a greenhouse gas which may contribute to global warming.

### 16. OTHER INFORMATION

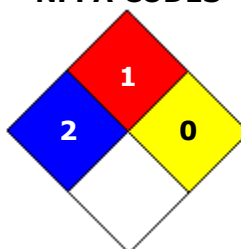
**APPROVED BY:** Pierce A. Pillon     **TITLE:** Chemist

**PREPARED BY:** Lindsey Shehan

#### HMIS RATING

<b>HEALTH</b>	<input type="checkbox"/>	<b>1</b>
<b>FLAMMABILITY</b>		<b>0</b>
<b>PHYSICAL HAZARD</b>		<b>1</b>
<b>PERSONAL PROTECTION</b>	<input type="checkbox"/>	

#### NFPA CODES



**DATA SOURCES:** Code of Federal Regulations (CFR) The Sigma-Aldrich Library of Regulatory and Safety Data  
OSHA Hazard Communication Standard (29CFR1910.1200) Various Federal, State and Local Regulations

**GENERAL STATEMENTS:** This MSDS was reviewed on 24 August 2009.

**MANUFACTURER DISCLAIMER:** To the best of our knowledge, the information contained herein is accurate. However, neither Tech Spray, L.P., or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.