



Anti-Static Freezer

Diagnostic Freeze Spray
1747

Introduction

A rapidly evaporating HFC-134a product that contains an anti-static agent. This product is used as a troubleshooting aid in static sensitive areas for intermittently faulting capacitors, resistors, semi-conductors and other defective components.

Features / Benefits

- Non-Flammable
- Non-Ozone Depleting
- Anti-Static Agent
- Chills to -40°F
- Zero Residue

Chemical Components

1,1,1,2-Tetrafluoroethane.....	(811-97-2)	98%
Methanol.....	(67-56-1)	2%

Environmental Policy

Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Anti-Static Freezer is available in the following sizes:

- | | |
|----------|------------------|
| 1747-10S | 10 Ounce Aerosol |
| 1747-15S | 15 Ounce Aerosol |

MATERIAL SAFETY DATA SHEET

Finished Product



MSDS Ref. No : 1747-A

Anti-Static Freezer

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Anti-Static Freezer**PRODUCT DESCRIPTION:** HFC-134a with Anti-stat**PRODUCT CODE:** 1747/CAN/EUR-10S/15S**CHEMICAL FAMILY:** Hydrofluorocarbons

MANUFACTURER

Techspray, L.P.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Content</u>	<u>CAS</u>	<u>EINECS</u>
1,1,1,2-Tetrafluoroethane (HFC-134a)	98	811-97-2	223770
Methanol	2	67-56-1	200-659-6

EEC LABEL SYMBOL AND CLASSIFICATION



R20/22 - Harmful by inhalation and if swallowed.

EEC Harmful - "Xn"

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

EXPOSURE LIMITS

<u>Chemical Name</u>	<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>Supplier OEL</u>		
	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	
1,1,1,2-Tetrafluoroethane (HFC-134a)	TWA	NE		NE		1,000 ppm ^[1]	
Methanol	TWA	S 200 ppm ^[2]	260 mg/m ³	S 200 ppm	262 mg/m ³	NL ppm	NL mg/m ³
	STEL	250 ppm	310 mg/m ³	250 ppm	328 mg/m ³	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

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)

SOLUBILITY IN WATER: Negligible

EVAPORATION RATE: > 1 (CCL4=1)

SPECIFIC GRAVITY: 1.22 (water=1) at 20°C (68°F)

MOLECULAR WEIGHT: 102

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CERCLA RQ: 5000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

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

RCRA STATUS: U154

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

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.

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

EEC LABEL SYMBOL AND CLASSIFICATION



R20/22 - Harmful by inhalation and if swallowed.

EEC Harmful - "Xn"

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

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: Steve Cook

REVISION SUMMARY Revision #: 6 This MSDS replaces the August 15, 2005 MSDS. Any changes in information are as follows: In Section 16 NFPA Flammability NFPA Health NFPA Reactivity