Safety Data Sheet
CHLOROTETRAFLUOROETHANE (R124)

www.advancedspecialtygases.com

Section 1: Product and Company Identification

Advanced Specialty Gases
135 Catron Dr. Reno, NV 89512
775-356-5500

Product Code: CHLOROTETRAFLUOROETHANE (R124)

Section 2: Hazards Identification

Warning

Hazard Classification:
Gases Under Pressure

Hazard Statements:
Contains gas under pressure; may explode if heated

Precautionary Statements

Storage:
Protect from sunlight.
Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

CAS #
2837-89-0

Chemical Substance	Chemical Family	Trade Names
Chlorotetrafluoroethane	refrigerants	HCFC-124, Ethane, 2-chloro-1,1,1,2-tetrafluoro-; CF3CHFCl; R 124 ,Forane (R124),1-chloro-1,2,2,2-tetrafluoroethane

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Flush skin with water.	Flush eyes with large amounts of water for at least 15 minutes	Unlikely route of exposure	Move to fresh air	Not available

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Nonflammable. Use appropriate media for type of surrounding fire. This material will become combustible when mixed with air under pressure and exposed to strong ignition sources.		▪ Wear self-contained, NIOSH-approved breathing apparatus

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Always wear recommended personal protective equipment. Evacuate area.	Not available.	Stop leak if without risk and provide ventilation.

Methods for Cleanup	Other Information
Stop leak if possible without personal risk.	

Section 7: Handling and Storage

Handling	Storage
Store in cool, well ventilated area of low fire risk and out of direct sunlight.	Avoid breathing vapors and liquid contact with eyes, skin or clothing.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
AIHA WEEL (United States, 1/2009). TWA: 1000 ppm 8 hour(s).

Engineering Controls

No specific controls are needed.

Eye Protection	Skin Protection	Respiratory Protection
Wear safety glasses for normal conditions	General work clothing and leather gloves would be sufficient	Wear self-contained, NIOSH-approved breathing apparatus

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Liquid gas	Colorless	Clear	N/A	Liquid gas	Faint ethereal odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Not applicable	Not available	Not available	Not applicable	Not applicable	Not applicable

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-11°C (12.2°F)	-199°C (-326.2°F)	49.1 psia @ 21.1 C (70 F)	4.74	1.34 @ 30°C (86°F)	Not available	Neutral	Not Available	>1 COMPARED TO: CCl4 = 1	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
136.48 g/mole	C2-H-Cl-F4	Not available	Not available	Not available	Not available	

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable under normal conditions	Stable under normal conditions	Freshly abraded aluminum surfaces. Chemically active metals: potassium, calcium, powdered aluminum, magnesium and zinc

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Halogens halogen acids, and possibly carbonyl halides	Will not occur

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
LC50 : 4 hr. (rat) - ?360,000 ppm	Not Available	Displaces oxygen in air and causes symptoms of asphyxiation. Including: loss of coordination, increases heart rate, deeper respiration. Severe exposure may cause cardiac arrhythmia.

Eye Irritation	Skin Irritation	Sensitization
Frostbite, irritation	Irritation, frostbite	Central nervous system depression. Asphyxiation risk.

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not Available	Not Available	Not Available	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not Available **Invertibrate toxicity: Not Available** **Algal toxicity: Not Available** **Phyto toxicity: Not Available** **Other toxicity: Not Available**	Not Available	Low risk	Gas, so unlikely to remain in water.

Section 13: Disposal Considerations

Disposal must comply with federal, state, and local disposal or discharge laws.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
1-Chloro-1,2,2,2-tetrafluoroethane	UN1021	2.2	Not required	N/a	N/A	N/A	N/A

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
1-Chloro-1,2,2,2-tetrafluoroethane	UN1021	2.2	Not required

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated	Not available	Not available

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	No	No	Yes

SARA 372.65

Not regulated

OSHA Process Safety

Not regulated

State Regulations

CA Proposition 65
Not regulated

Canadian Regulations

WHMIS Classification
Not available

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Not available	Not available	Not available

Section 16: Other Information

NFPA Rating
Health – 2, Flammability – 1, Reactivity – 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard