

Section 1: Product and Company Identification

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

IN CASE OF EMERGENCY CALL CHEMTREC: 1-800-424-9300

Product Code: TRIFLUOROMETHANE (HC-23)

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 #

75-46-7

Chemical Substance	Chemical Family	Trade Names
TRIFLUOROMETHANE (HC-23)	Halogenated, Aliphatic	Fluoroform; Arcton 1; Fluoryl; Freon F-23; Freon 23; Genetron 23; Methyl trifluoride; R 23; Trifluoromethane; CHF3; Arcton; Halocarbon 23; UN 1984; Carbon trifluoride; Genetron HFC23; Propellant 23; Refrigerant 23

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Flush with plenty of water	Flush with plenty of water for at least 15 minutes	Unlikely.	Move to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. Use extinguishing agent suitable for the surrounding fire.	Carbon dioxide, carbon monoxide, halogenated compounds, carbonyl halides	<ul style="list-style-type: none"> ▪ Fire-fighters wear appropriate protective equipment and self-contained breathing apparatus

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Contact emergency personnel immediately. Keep unnecessary people away, isolate hazard area and deny entry.	Avoid dispersal of spilled material and runoff and contact with soil, waterways, and sewers.	Not available

Methods for Cleanup	Other Information
Contact emergency personnel. Stop leak if possible without risk.	Not available

Section 7: Handling and Storage

Handling	Storage
Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125F (52C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.	Do not get liquid in eyes, on skin, or clothing. Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Open valve slowly. Close cylinder valve after each use; keep closed even when empty. If valve is hard to open, discontinue use and contact your supplier.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
Not available

Engineering Controls

No specific controls are needed.

Eye Protection	Skin Protection	Respiratory Protection
Use approved standard safety eyewear.	Use personal protective equipment based on task being performed.	

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
Gas	Clear, colorless liquid and vapor	Colorless		Gas	Faint ethereal odor	Not found

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Not applicable	Not applicable		765 C	None	None

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-82.1 C	-155 C	623.4 psia at 70 deg F	2.4 (Air=1)	21.1 C	Unknown	Neutral	Not found	>1 (butyl acetate=1)	

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
70.013	CHF3			100%	Not available	

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable	Stable	At very high temperatures and/or appropriate pressures, avoid freshly abraded aluminum surfaces and chemically reactive metals (potassium, calcium, powdered aluminum, magnesium, and zinc)

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

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
Not available	Not available	Symptoms of asphyxiation, loss of coordination, increased pulse rate, deeper respiration

Eye Irritation	Skin Irritation	Sensitization
		OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
No known significant effects or critical hazards	At very high temperatures and/or appropriate pressures, avoid freshly abraded aluminum surfaces and chemically reactive metals (potassium, calcium, p	At very high temperatures and/or appropriate pressures, avoid freshly abraded aluminum surfaces and chemically reactive metals (potassium, calcium, p	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available	Not available	Not available	Not available

Phyto toxicity: Not available			
Other toxicity: Not available			

Section 13: Disposal Considerations

Must be disposed of in accordance with appropriate federal, state, and local regulation.

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
TRIFLUOROMETHANE OR REFRIGERANT GAS R23	UN1984	2.2	NOT APPLICABLE	2.2	75 kg	150 kg	Not available

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
TRIFLUOROMETHANE OR REFRIGERANT GAS R23	UN1984	2.2	Not available

Section 15: Regulatory Information

U.S. Regulations

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

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Not available	Not available	Not available	Not available	Not available

SARA 372.65

Not available

OSHA Process Safety

Not available

State Regulations

CA Proposition 65

Not listed.

Canadian Regulations

WHMIS Classification

Class A: Compressed Gas

National Inventory Status

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

Section 16: Other Information

NFPA Rating
HEALTH:3, FLAMMABILITY: 0, INSTABILITY: 1

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