Material Safety Data Sheet

1. Product and Company Identification

Product name : **Chlorodifluoromethane**

Chemical formula : CHClF2

Synonyms : Monochlorodifluoromethane; Difluoromonochloromethane; Freon 22; Frigen 22; Difluorochloromethane; Refrigerant 22; UN 1018

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Chlorodifluoromethane	75-45-6	100%

3. Hazards Identification

Emergency Overview

Containers may rupture or explode if exposed to heat. May decompose when heated. Releases toxic, corrosive, flammable or explosive gases.
May cause central nervous system depression, difficulty breathing.

Potential Health Effects

Inhalation : Irritation, nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, disorientation, difficulty speaking, emotional disturbances, tingling sensation, tremors, loss of coordination, suffocation, convulsions, coma.

Eye contact : Frostbite, irritation.

Skin contact : Frostbite, irritation.

Ingestion : Ingestion of a harmful amount is unlikely; frostbite.

Chronic Health Hazard : None known.

4. First Aid Measures

Eye contact : Contact with liquid: Immediately flush eyes thoroughly with water for at least 15 minutes. Then get immediate medical attention.

Skin contact : If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blanket. Get immediate medical attention.

Ingestion : If a large amount is swallowed, get medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be

administered by qualified personnel. Get immediate medical attention.

Note to physicians : For inhalation, consider oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media : Regular dry chemical, carbon dioxide.
Large fires: Use regular foam or flood with fine water spray.

Specific hazards : Negligible fire hazard. Containers may rupture or explode if exposed to heat.

Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).

6. Accidental Release Measures

Occupational spill/release : Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

Additional advice : None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Store in accordance with all current regulations and standards. Store in a tightly closed container. Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances. Store below 52°C.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH : 1000 ppm TWA

OSHA (vacated) : 1000 ppm TWA; 3500 mg/m3 TWA

NIOSH : 1250 ppm STEL; 4375 mg/m3 STEL
1000 ppm TWA; 3500 mg/m3 TWA

Engineering measures/Ventilation

Ensure compliance with applicable exposure limits. Provide local exhaust ventilation system.

Personal protective equipment

Respiratory protection : Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
For unknown concentrations or Immediately Dangerous to Life or Health – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Hand protection : Wear insulated gloves.

Eye protection : Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and body protection	:	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

9. Physical and Chemical Properties

Form	:	Liquefied gas.
Color	:	Colorless.
Odor	:	Sweet odor.
Molecular weight	:	86.47
Vapor pressure	:	7120 mmHg @ 21°C
Vapor density	:	3.11 (air = 1)
Boiling point	:	-41°C
Melting point	:	-160 - 146°C
Water solubility	:	0.3% @ 25°C
Specific gravity	:	3.87 @ 0°C
Solvent solubility	:	Soluble: ether, acetone, chloroform, hydrocarbons, ketones, esters, organic acids. Insoluble: glycols, glycerol, phenols, castor oils.

10. Stability and Reactivity

Stability	:	May decompose on contact with heat and/or storage and use above room temperature. Releases toxic, corrosive, flammable or explosive gases.
Conditions to avoid	:	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
Materials to avoid	:	Bases, metals, oxidizing materials.
Hazardous decomposition products	:	Thermal decomposition products: Oxides of carbon, hydrochloric acid, chlorine, phosgene.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

CHLORODIFLUOROMETHANE (75-45-6) : Inhalation LC50 Rat: 220000 ppm/4H

Acute Toxicity Level

CHLORODIFLUOROMETHANE (75-45-6) : Non toxic: inhalation

Component Carcinogenicity

ACGIH	:	A4 – Not Classifiable as a Human Carcinogen.
IARC	:	Monograph 71 [1999]; Supplement 7 [1987]; Monograph 41 [1986] (Group 3 (not classifiable)).

Target Organs

CHLORODIFLUOROMETHANE (75-45-6) : Central nervous system.

Additional Data

Stimulants such as epinephrine may induce ventricular fibrillation.

12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

13. Disposal Considerations

Waste from residues / unused products	:	Dispose in accordance with all applicable regulations.
Contaminated packaging	:	Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name	:	Chlorodifluoromethane
Class	:	2.2
UN/ID No.	:	UN1018
Labeling	:	Non-flammable Gas

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

CHLORODIFLUOROMETHANE (75-45-6) : SARA 313: 1.0% de minimis concentration

SARA 311/312

Acute: Yes
Chronic: No
Fire: No
Reactive: No
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
CHLORODIFLUOROMETHANE	75-45-6	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.