



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Dichlorofluoromethane**

Chemical formula : C-H-CL₂-F

Synonyms : Dichloromonofluoromethane; Freon 21; Algofrene Type 5; Arcton 7; Genetron 21; Fluorodichloromethane

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
Dichlorofluoromethane	75-43-4	100%

3. Hazards Identification

Emergency Overview

Containers may rupture or explode if exposed to heat.
May cause central nervous system depression.

Potential Health Effects

Inhalation : Ringing in the ears, irregular heartbeat, drowsiness, symptoms of drunkenness.
Eye contact : Blurred vision, frostbite.
Skin contact : Frostbite.
Ingestion : Frostbite, irregular heartbeat, symptoms of drunkenness, liver damage.
Chronic Health Hazard : Not applicable.

4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes with plenty of 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.

5. Fire-Fighting Measures

- Suitable extinguishing media : Carbon dioxide, regular dry chemical.
- Specific hazards : Negligible fire hazard.
- Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after 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). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

6. Accidental Release Measures

- Personal precautions : None.
- Environmental precautions : None.
- Methods for cleaning up : 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

Store in accordance with all current regulations and standards.

8. Exposure Controls / Personal Protection

Exposure limits

- 1000 ppm (4200 mg/m³) OSHA TWA
- 10 ppm (42 mg/m³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
- 10 ppm ACGIH TWA
- 10 ppm (42 mg/m³) NIOSH recommended TWA 10 hour(s)

Engineering measures

Not available.

Personal protective equipment

- Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
- 100 ppm – Any supplied-air respirator.
 - 250 ppm – Any supplied-air respirator operated in continuous-flow mode.
 - 500 ppm – Any supplied-air respirator with a full facepiece. Any self-contained breathing apparatus with a full facepiece.
 - 5000 ppm – any supplied-air respirator operated in pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive pressure-mode.
 - Escape – Any air-purifying respirator with a full facepiece and an organic vapor

canister. Any appropriate escape-type, self-contained breathing apparatus.
For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Any self-contained breathing apparatus with a full facepiece.

- 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, but recommended. For the liquid: Wear appropriate protective, cold insulating clothing.

9. Physical and Chemical Properties

- Form : Gas.
Color : Colorless.
Odor : Faint odor, sweet odor.
Molecular weight : 102.92
Vapor pressure : 1520 mmHg @ 28.4 C
Vapor density : 3.82 (air = 1)
Specific gravity : 1.426 @ 0 C (water = 1)
Boiling point : 48 F (8.9 C)
Freezing point : -211 F (-135 C)
Water solubility : 1%

10. Stability and Reactivity

- Stability : Stable at normal temperatures and pressure.
Conditions to avoid : Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
Materials to avoid : Metals.
Hazardous decomposition products : Thermal decomposition products: Acid halides, chlorine, halogens, phosgene.

11. Toxicological Information

Toxicity Data

49900 ppm/4 hour(s) inhalation-rat LC50

Acute Health Hazard

- Ingestion : Not available.
Inhalation : Slightly toxic.
Skin : Not available.
Target Organs : Central nervous system.

12. Ecological Information

Not available.

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 : Dichlorofluoromethane
Class : 2.2
UN/ID No. : UN1029
Labeling : Non-Flammable Gas

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Process Safety (29 CFR 1910.119) Hazard Class(es)

Not regulated.

TCSA

Material is listed in TSCA inventory.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355.30)

Not regulated.

SARA Title III Section 304 Extremely Hazardous Substances (40 CFR 355.40)

Not regulated.

SARA Title III SARA Sections 311/312 Hazardous Categories (40 CFR 370.21)

Acute: Yes
Chronic: No
Fire: No
Reactive: No
Sudden Release: Yes

SARA Title III Section 313 (40 CFR 372.65)

Dichloromonofluoromethane (HCFC-21)

16. Other Information

Prepared by : Specialty Gases of America, Inc.
For additional information, please visit our website at www.americangasgroup.com.