



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Dichlorodifluoromethane**

Chemical formula : CCl₂F₂

Synonyms : Chlorofluorocarbon 12; Dichlorodifluoromethane(R-12); Difluorodichloromethane; Dichlorodifluoromethane (CCl₂F₂); Electro-CF 12; CF 12; FC 12; CFC 12; Freon 12; Fluorocarbon-12; Halon; F 12; Halon 122; R 12; R 12 (Refrigerant); UN 1028

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
Dichlorodifluoromethane	75-71-8	100%

3. Hazards Identification

Emergency Overview

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

Potential Health Effects

Inhalation : Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, disorientation, mood swing, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma.

Eye contact : Frostbite, eye damage, blurred vision.

Skin contact : Blisters, frostbite.

Ingestion : Ingestion of a gas is unlikely.

Chronic Health Hazard : Not available.

4. First Aid Measures

Eye contact : Contact with liquid: 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.
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). 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

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. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
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. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH : 1000 ppm TWA
OSHA (final) : 1000 ppm TWA; 4950 mg/m³ TWA
OSHA (vacated) : 1000 ppm TWA; 4950 mg/m³ TWA
NIOSH : 1000 ppm TWA; 4950 mg/m³ TWA

IDLH

15,000 ppm

Engineering measures/Ventilation

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

Personal protective equipment

Respiratory protection	:	The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. 10000 ppm – Any supplied-air respirator. 15000 ppm – Any supplied-air respirator operated in a continuous-flow mode. Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. Emergency or planned entry into unknown concentrations or IDLH conditions – Any self-contained breathing apparatus that has a full facepiece and is operated in a 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 in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.
Hand protection	:	Wear insulated gloves.
Eye protection	:	For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. 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	:	Gas.
Color	:	Colorless.
Odor	:	Faint odor, ether odor.
Molecular weight	:	120.91
Vapor pressure	:	4393 mmHg @ 21.1°C
Vapor density	:	4.2 (air = 1)
Boiling point	:	-29.8°C @ 760 mmHg
Melting point	:	-158°C
Water solubility	:	0.028% @ 25°C
Evaporation rate	:	380 (butyl acetate = 1)
Solvent solubility	:	Soluble: alcohol, ether, acetic acid, ketones, esters, hydrocarbons, oils, chlorinated solvents, organic acids. Insoluble: glycols, glycerol, phenols.

10. Stability and Reactivity

Stability	:	Stable under normal conditions.
Conditions to avoid	:	Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
Materials to avoid	:	Metals, combustible materials, aluminum, acids.
Hazardous decomposition products	:	Thermal decomposition products: phosgene, halogenated anilines, hydrochloric acids, carbonyl fluoride, chlorine, hydrogen fluoride, fluorocarbons, hydrogen chloride.

11. Toxicological Information

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

DICHLORODIFLUOROMETHANE : Inhalation LC50 Mouse: 3348 g/m3/3H
(75-71-8)

Acute Toxicity Level

DICHLORODIFLUOROMETHANE : Non toxic: inhalation
(75-71-8)

Component Carcinogenicity

ACGIH : A4 – Not Classifiable as a Human Carcinogen.

Target Organs

DICHLORODIFLUOROMETHANE : Central nervous system.
(75-71-8)

Medical Conditions Aggravated by Exposure

Heart or cardiovascular disorders.

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 : Dispose in accordance with all applicable regulations. Subject to disposal
/ unused products regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U075.
Contaminated : Return cylinder to supplier.
packaging
Component Waste : DICHLORODIFLUOROMETHANE (75-71-8)
Numbers RCRA: waste_number U075

14. Transport Information

DOT (US only)

Proper shipping : Dichlorodifluoromethane
name
Class : 2.2
UN/ID No. : UN1028
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.

DICHLORODIFLUOROMETHANE : SARA 313: 1.0% de minimis concentration
(75-71-8) CERCLA: 5000 lb final RQ; 2270 kg final RQ

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
DICHLORODIFLUOROMETHANE	75-71-8	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.