

**R 22****Code: TR22****1. IDENTIFICATION OF PREPARATION AND SOCIETY**

- 1.1 Description trade:** R 22  
Codice: TR22
- 1.2 Uses planned:** Industry:  
Type of use: Refrigerant  
Application: Professional

- 1.3 Society:**
- 
- MARIEL S.R.L.**  
Via Mauri 4 - 21010 - BESNATE (VA) - Italia  
**Telephone:** +39 0331 275316  
**Fax:** +39 0331 275206  
**e-mail:** info@mariel.it

**1.4 Emergency Phone: +39 0331 275316****2. IDENTIFICATION OF DANGERS****2.1 HAZARDS INFORMATION:**

Dangerous for the ozone layer.  
Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.  
High vapour concentrations can cause headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness. Heartbeat irregularity (arrhythmia).

**3. COMPOSITION AND INFORMATION ON INGREDIENTS****3.1 Description:****Name of the chemical substance:** Chlorodifluoromethane.

%	Substances	
100% wt	Chlorodifluoromethane	EC 200-871-9
	N; R59	CAS 75-45-6



For more information on hazardous components, see sections 8, 11, 12 and 16.

**4. FIRST AID MEASURES**

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

**Notes to physician** Do not give adrenaline or similar drugs.**4.1 Inhalation:**

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention

**4.2 Skin Contact:**

Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. In case of contact with liquid, warm frozen tissues with water and get medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse

**4.3 Eye Contact:**

Immediately flush eyes with a large amount of water for at least 15 minutes. If symptoms exist and/or persist, get prompt medical attention.

**4.4 Ingestion:**

As this product is a gas, refer to the inhalation section. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**5. FIRE FIGHTING MEASURES**

**R 22****Code: TR22****5.1 Extinguishing Agents:**

Non-flammable. In case of fire, use water spray (fog), foam, dry chemical or CO2 extinguisher or spray.

**5.2 Unusual Hazards:**

Possibility of generating hazardous reactions during a fire due to the presence of F and/or Cl groups. In a fire or if heated, a pressure increase will occur and the container may burst. Use water spray to keep fire-exposed containers cool. This product is not flammable at ambient temperatures and atmospheric pressure. However, this material can ignite when mixed with air under pressure and exposed to strong ignition sources.

**5.3 Personal Protective Equipment:**

Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

**5.4 Hazardous thermal decomposition products Special exposure hazards**

These products are carbon oxides (CO, CO2), halogenated compounds, hydrogen chloride, hydrogen fluoride, carbonyl halides.

**6. ACCIDENTAL SPILL OR LEAK RELEASE INFORMATION****6.1 Personal Protection:**

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

**6.2 Procedures:**

Stop leak if without risk. Spillages may evaporate rapidly.

**6.3 CAUTION:**

/

**7. HANDLING AND STORAGE****7.1 FIRE AND EXPLOSIVE PROPERTIES:**

**Decomposition Temperature** (°C); [°F]: >250°C (482°F)

**7.2 Storage Conditions:**

Store in original container, protected from direct sunlight. Keep container tightly closed in a cool, well-ventilated place.

**- Handling Procedures**

Exercise caution when opening to allow pressure release. Store and use away from heat, sparks, open flame, or any other ignition source. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Provide adequate ventilation. Wash thoroughly after handling.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

8.1 Exposure Limits (TLV)	TLV-TWA		TLV-STEL		Anno
	ppm	mg/m3	ppm	mg/m3	
AGCIH 2005					
Clorodifluorometano (R22)	1000	3600			OEL (IT) 2000
	1000	3600			EU ELV 2001

TLV - Threshold Limit Value, TWA - Time Weighted Average, STEL - Short Term Exposure Limit.

**Respiratory Protection:**

In case of insufficient ventilation, wear suitable respiratory equipment. Recommended: supplied-air respirator.

**8.2 Ventilation:**

Provide adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

**- Eye Protection:** Recommended: safety glasses with side shields, splash goggles. Possible: face shield.

**- Hand Protection:** Insulated gloves suitable for low temperatures. Recommended: butyl rubber

**8.2.2 Other Protective Equipment:**



R 22

Code: TR22



## 9. TYPICAL PHYSICAL PROPERTIES:

- State : liquefied gas
- Color : incolor
- Odor Characteristics : Ethreal.Slight
- Solubility in Water : 0.3 g/100ml a 25°C a 1013 hPa
- Melting point : -160 °C a 1013 hPa
- Boiling Point : -40.8 °C a 1013 hPa
- Flash point : not applicable
- Auto-ignition temperature : > 750°C
- Relative density : 1.210 g/cm3 a 20°C (come liquido)
- Vapour density : 3 Air =1

Octanol/water partition coefficient: log Pow: 1.13

## 10. STABILITY AND REACTIVITY

### 10.1 Stability:

Stable under normal conditions.

### 10.2 Conditions to avoid::

In a fire or if heated, a pressure increase will occur and the container may burst. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use.

### 10.3 Incompatibility:

Strong oxidising materials. Incompatible with magnesium, zinc, sodium, potassium and aluminium. Incompatibility is more severe if the metal is present as dust or powder or has freshly exposed surfaces.

### 10.4 Hazardous Decomposition Products:

These products are halogenated compounds, hydrogen fluoride, carbon oxides (CO, CO<sub>2</sub>), carbonyl halides.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 TOXICOLOGICAL INFORMATION:

#### Effects:

**Inhalation** : Heartbeat irregularity (arrhythmia).

**Ingestion** : No specific hazard

**Skin Contact** : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. Slightly irritating to the skin.

**Eye contact** : Slightly irritating to the eyes.

**Remarks** : Cardiac sensitisation threshold (dog): 50000 ppm.

### 11.2 Dose and contraction letal

	CL50 Inalation mg/m <sup>3</sup> .0.25h	CL50 Inalation mg/m <sup>3</sup> .0.5h	CL50 Inalation mg/m <sup>3</sup> .4h
Chlorodifluoromethane	1237 Rabbit	990 Rabbit	778 Rabbit

## 12. ECOLOGICAL INFORMATION

### Persistence and Degradation:

- ODP : 0.055

- GWP : 1700

### 12.4 Degradation:

CL50 CE50 CE50

**R 22****Code: TR22**

mg/l.96h mg/l.48h mg/l.72h

Chlorodifluoromethane 777 fish 433 Dafnia

**13. DISPOSAL INFORMATION****13.1 WASTE DISPOSAL:****Procedure:** Disposal of aerosol containers must be in accordance with local and national regulations. .**14. TRANSPORT INFORMATION****Classification IMCO:** UN Number 1018 - Class 2.2 -Chlorodifluoromethane-HI 20**Classification ADR:** UN Number 1018 - Class 2.2 -Chlorodifluoromethane**Classification IATA:** UN Number 1018 - Class 2.2 -Chlorodifluoromethane**Classification IMO:** UN Number 1018 - Class 2.2 Chlorodifluoromethane**15. REGULATORY INFORMATION**

N Dangerous for the environment

R59- Dangerous for the ozone layer.

S59- Refer to manufacturer/supplier for information on recovery/recycling.

Version: 2 By

Date of revision: Date of stamp: Mariel srl

08/02/2008 08/04/2008

**16. OTHER INFORMATION**

All information, recommendations, and suggestions made by Mariel srl. ("Company") appearing herein concerning our product are based upon tests and data believed to be reliable. However, because of the variable characteristics of analytical procedures and samples, and the inability to control its customers' uses of the information and recommendations, or the related products or materials, Company makes NO WARRANTY, EXPRESS OR IMPLIED as to the accuracy of the information or recommendations or that such are fit for any general or specific purpose, whatsoever. Company shall have NO LIABILITY arising from the use by its customers or any third parties of the information and recommendations, and it shall be each customer's sole responsibility to determine the suitability for its own use of any information or recommendations provided by Company.