Warning

2 Hazards identification

Classification of the substance or mixture

Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)
- Physical hazards: Gases under pressure - Liquefied gas - Warning (H280)
- Environmental hazards: Dangerous for the ozone layer. (EUH059)

Classification EC 67/548 or EC 1999/45: Not included in Annex VI.
N; R59

Label elements
Labelling Regulation EC 1272/2008 (CLP)
2 Hazards identification (continued)

- Hazard pictograms

![Hazard pictograms code: GHS04](image)

- Signal word: Warning

- Hazard statements: H280: Contains gas under pressure; may explode if heated.

- Supplemental hazard information: EUH059: Dangerous for the ozone layer.

- Precautionary statements

  - Prevention: P273: Avoid release to the environment.
  - Storage: P403: Store in a well-ventilated place.

Labelling EC 67/548 or EC 1999/45

Symbol(s)

![Symbol(s): N](image)

- R Phrase(s): R59: Dangerous for the ozone layer.

- S Phrase(s): S59: Refer to manufacturer/supplier for information on recovery/recycling.

Other hazards: Asphyxiant in high concentrations.

3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance / Preparation</th>
<th>Substance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>Contents</td>
</tr>
<tr>
<td>Dichlorodifluoromethane (R12)</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Contains no other components or impurities which will influence the classification of the product.

Note 1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

4 First aid measures

- Inhalation: In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

- Skin/eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Air Liquide UK Ltd.
Station Road    Coleshill    Birmingham    B46 1JY    United Kingdom
4 First aid measures (continued)

- Ingestion : Ingestion is not considered a potential route of exposure.

5 Fire-fighting measures

Specific hazards
Hazardous combustion products : Exposure to fire may cause containers to rupture/explode.

- Specific hazards
Hazardous combustion products: If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition: Carbonyl fluoride. Carbon monoxide. Phosgene. Hydrogen chloride. Hydrogen fluoride.

Extinguishing media
- Suitable extinguishing media : All known extinguishants can be used.

Specific methods : If possible, stop flow of product.
Move away from the container and cool with water from a protected position.

Special protective equipment for fire fighters : Use self-contained breathing apparatus and chemically protective clothing.

6 Accidental release measures

Personal precautions : Evacuate area.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.

Environmental precautions : Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods : Ventilate area.

7 Handling and storage

Handling : Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Refer to supplier’s container handling instructions.

Storage : Keep container below 50°C in a well ventilated place.

8 Exposure controls/personal protection

Personal protection : Ensure adequate ventilation.
Do not smoke while handling product.

Occupational Exposure Limits : Dichlorodifluoromethane (R12) : TLV© -TWA [ppm] : 1000

9 Physical and chemical properties

Physical state at 20 °C : Gas.
Colour : Colourless.
Odour : Ethereal. Poor warning properties at low concentrations.
Molecular weight : 121
9 Physical and chemical properties  (continued)

- Melting point [°C]: -158
- Boiling point [°C]: -29.8
- Critical temperature [°C]: 112
- Vapour pressure [20°C]: 5.7 bar
- Relative density, gas (air=1): 4.2
- Relative density, liquid (water=1): 1.3
- Solubility in water [mg/l]: 286
- Flammability range [vol% in air]: Non flammable.
- Other data: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 Stability and reactivity

- Hazardous decomposition products: Thermal decomposition yields toxic products which can be corrosive in the presence of moisture.
- Conditions to avoid: Heat.
- Chemical stability: Stable under normal conditions.

11 Toxicological information

- Toxicity information: May produce irregular heart beat and nervous symptoms.

12 Ecological information

- Effect on ozone layer: May have damaging effect on ozone layer. Covered by the 'Montreal Protocol'.
- Ozone depletion factor [R11=1]: 1
- Global warming potential [CO2=1]: 10900

13 Disposal considerations

- General: Do not discharge into any place where its accumulation could be dangerous. Refer to supplier's waste gas recovery programme. Contact supplier if guidance is required. Must not be discharged to atmosphere.

14 Transport information

- UN number: 1028
- Labelling ADR, IMDG, IATA

- Land transport: 2.2: Non flammable, non toxic gas.
14 Transport information (continued)

ADR/RID

H.I. nr : 20

UN proper shipping name : DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)

Transport hazard class(es) : 2

- ADR/RID Classification code : 2 A
- Tunnel Restriction : C/E Tank carriage: Passage forbidden through tunnels of category C, D and E; Other carriage: Passage forbidden through tunnels of category E

Sea transport

- IMO-IMDG code
  - Proper shipping name : DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)
  - Class : 2.2
  - IMO Packing group : P200
  - Emergency Schedule (EmS) - Fire : F-C
  - Emergency Schedule (EmS) - Spillage
     - Instructions - Packing : P200

Air transport

- ICAO/IATA
  - Proper shipping name : DICHLORODIFLUOROMETHANE (REFRIGERANT GAS R 12)
  - Class : 2.2
  - Passenger and Cargo Aircraft
     - Packing instruction : 200
  - Cargo Aircraft only
     - Packing instruction : 200

Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers :
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
- Ensure all national/local regulations are observed.

Seveso regulation 96/82/EC : Not covered.
16 Other information

Asphyxiant in high concentrations.
Keep container in well ventilated place.
Do not breathe the gas.
Contact with liquid may cause cold burns/frostbite.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.

List of full text of R-phrases in section 3.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

DISCLAIMER OF LIABILITY

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

End of document