

**Section 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

**Product name:** REFRIGERANT R744  
**CAS number:** 124-38-9  
**EINECS number:** 204-696-9  
**Product code:** R744  
**Synonyms:** CARBON DIOXIDE  
CO2

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.3. Details of the supplier of the safety data sheet**

**Company name:** National Refrigerants Ltd  
4 Watling Close  
Sketchley Meadows Business Park  
Hinckley  
Leicestershire  
LE10 3EZ  
United Kingdom  
**Tel:** 01455 630790  
**Fax:** 01455 630791  
**Email:** [sds@nationalref.com](mailto:sds@nationalref.com)

**1.4. Emergency telephone number**

**Emergency tel:** Carechem24 +44 (0)1865 407333

**Section 2: Hazards identification****2.1. Classification of the substance or mixture**

**Classification under CLP:** Press. Gas: H280; -: EUH044

**Most important adverse effects:** Contains gas under pressure; may explode if heated. Risk of explosion if heated under confinement.

**2.2. Label elements****Label elements:**

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

EUH044: Risk of explosion if heated under confinement.

**Hazard pictograms:** GHS04: Gas cylinder



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**Signal words:** Warning

**Precautionary statements:** P403: Store in a well-ventilated place.

P410: Protect from sunlight.

## 2.3. Other hazards

**PBT:** This product is not identified as a PBT/vPvB substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** REFRIGERANT R744

**CAS number:** 124-38-9

**EINECS number:** 204-696-9

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin.

Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Do not use hot water. If frostbite has occurred call a physician.

**Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

**Ingestion:** Not applicable.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. Consult a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** Frost-bite may occur causing the affected area to become white and numb.

**Eye contact:** There may be severe pain. Corneal burns may occur. May cause permanent damage.

**Ingestion:** It is unlikely that this substance will be swallowed due to its physical properties.

**Inhalation:** \* Gas reduces oxygen available for breathing. Causes asphyxiation in high concentrations. Inhalation may produce the following symptoms: Shortness of breath, dizziness, weakness, nausea, headache, narcosis, irregular cardiac activity. Victims may not be aware of asphyxiation Symptoms may include loss of mobility/consciousness

### 4.3. Indication of any immediate medical attention and special treatment needed

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

[cont...]

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## 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** Non flammable gas. Pressure build up. Fire or intense heat may cause violent rupture of packages.

## 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Ventilate the area, especially low or enclosed places where heavy vapours might collect. Vapours heavier than air and can cause suffocation by reducing oxygen available for breathing.

### 6.2. Environmental precautions

**Environmental precautions:** The product evaporates readily. Stop release if safe to do so. Prevent from entering sewers, basements and work pits, or any place where the accumulation can be dangerous.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Material evaporates. Ventilate the area, especially low or enclosed places where heavy vapours might collect.

### 6.4. Reference to other sections

**Reference to other sections:** Refer to section 8 of SDS.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Ensure there is sufficient ventilation of the area. Do not handle in a confined space.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in a cool, well ventilated area. Store at temperatures not exceeding 45 ° C.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3. Specific end use(s)

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Workplace exposure limits:** No data available.

### DNEL/PNEC Values

**DNEL / PNEC** No data available.

[cont...]

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## 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area. Ensure there is exhaust ventilation of the area.

**Respiratory protection:** Respiratory protection not required. Self-contained breathing apparatus must be available in case of emergency.

**Hand protection:** Protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection:** Safety glasses with side-shields.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Liquefied gas

**Colour:** Colourless

**Odour:** Odourless

**Flammability limits %: lower:** Not applicable.

**upper:** Not applicable.

**Flash point°C:** Not applicable.

### 9.2. Other information

**Other information:** No data available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions.

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.

### 10.4. Conditions to avoid

**Conditions to avoid:** Heat.

### 10.5. Incompatible materials

**Materials to avoid:** No data available.

### 10.6. Hazardous decomposition products

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**Toxicity values:** No data available.

[cont...]

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## Symptoms / routes of exposure

- Skin contact:** Frost-bite may occur causing the affected area to become white and numb.
- Eye contact:** There may be severe pain. Corneal burns may occur. May cause permanent damage.
- Ingestion:** It is unlikely that this substance will be swallowed due to its physical properties.
- Inhalation:** \* Gas reduces oxygen available for breathing. Causes asphyxiation in high concentrations. Inhalation may produce the following symptoms: Shortness of breath, dizziness, weakness, nausea, headache, narcosis, irregular cardiac activity. Victims may not be aware of asphyxiation Symptoms may include loss of mobility/consciousness

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** No data available.

### 12.2. Persistence and degradability

### 12.3. Bioaccumulative potential

### 12.4. Mobility in soil

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This product is not identified as a PBT/vPvB substance.

### 12.6. Other adverse effects

**Other adverse effects:** R744 Global Warming Potential (GWP): 1 (CO<sub>2</sub>=1)

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Product evaporates.

**Recovery operations:** Not applicable.

**Waste code number:** 16 05 05

**Disposal of packaging:** Return to supplier.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN1013

### 14.2. UN proper shipping name

**Shipping name:** CARBON DIOXIDE

### 14.3. Transport hazard class(es)

**Transport class:** 2

[cont...]

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## 14.4. Packing group

## 14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

## 14.6. Special precautions for user

Tunnel code: C/E

Transport category: 3

## Section 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. Chemical Safety Assessment

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:** EUH044: Risk of explosion if heated under confinement.

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

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.