

R-744
100174400
SECTION 1 Identification of the substance/mixture and of the company/undertaking
1.1. Product identifier

Product name : R-744
Common chemical name : Carbon dioxide.
CAS nr : 124-38-9
EC Number : 204-696-9
REACH registration numbe : Listed in Annex IV / V REACH, exempted from registration.

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Relevant identified uses : Refrigerant

1.3. Details of the supplier of the safety data sheet

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 26 Avenue du Petit Parc
 94683 VINCENNES Cedex France
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 Fax : +33 (0) 1 43 98 21 51

e-mail : ContactFDS@climalife.dehon.com

1.4 Emergency telephone number : EMERGENCY TELEPHONE NUMBER (24h/24) : + 33 (0) 1 72 11 00 03
 Anti-poison Center : INRS/ORFILA (France) : +33 (0) 1 45 42 59 59
 Anti-poison Centre (Belgium) : +32 70 245 245
 Anti-poison Centre (Netherlands) : +31 30 274 8888
 Anti-poison Centre (Spain) : +34 91 562 04 20
 Anti-poison Centre (United Kingdom) : +44 870 600 6266
 Poisons Information Centre (Hungary) : +36 80 201 199

SECTION 2 Hazards identification
2.1. Classification of the substance or mixture
2.1.1. Regulation (EC) No 1272/2008 (CLP)

Physical hazards : Gases under pressure - Liquefied gas (Press. Gas) - H280

2.2. Label elements
2.2.1 Labelling EC 1272/2008 (CLP)
Hazard pictograms

Signal words

: Warning

Hazard statements

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

Precautionary statements :

: P410+P403 : Protect from sunlight Store in a well-ventilated place

2.3. Other hazards

: Asphyxiant in high concentrations.
 Contact with liquid may cause cold burns/frostbite.

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SECTION 3 Composition/information on ingredients
3.1./3.2. Substance / Mixture : Substance.

Components contributing to the hazard :

Substance name	Contents	CAS No	EC No	Index No	Ref REACH	Classification
Carbon dioxide	100 %	124-38-9	204-696-9	----	----	Not classified. (DSD/DPD) Liquefied gas;H280

SECTION 4 First aid measures
4.1. Description of first aid measures

- Inhalation** : Move the affected person away from the contaminated area and into the fresh air
 Make the affected person rest and keep at warm
 Call a doctor
 In case of respiratory arrest, administer artificial respiration.
- Skin contact** : In the event of contact with the liquid: treat resulting frostbite as a burn
 Rinse with plenty of water. DO NOT remove clothing (since it may stick to the skin).
 If skin burns appear, call a doctor immediately
- Eye contact** : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum)
 Consult an eye specialist immediately
- Ingestion** : Not specifically applicable (gas)

4.2. Most important symptoms and effects, both acute and delayed : Cardiac disorders
 Headaches
 At high concentrations:
 Anoxia (asphyxia)

4.3. Indication of any immediate medical attention and special treatment needed : None

SECTION 5 Fire-fighting measures
5.1. Extinguishing media

Suitable extinguishing media : All extinguishing agents can be used

5.2. Special hazards arising from the substance or mixture : Pressurized container. On heating there is a risk of bursting due to internal pressure build-up.

5.3. Advice for firefighters

Specific fire fighting methods : Cool down the containers exposed to heat with a water spray

Protection of fire-fighters : Complete protective clothing
 Self-contained breathing apparatus

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SECTION 6 Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures** : Stop the leak.
Evacuate the danger area.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
- 6.2. Environmental precautions** : Try to stop release.
- 6.3. Methods and material for containment and cleaning up** : Mechanically ventilate the spillage area (risk of asphyxia)
- 6.4 Reference to other sections** : For further information refer to section 8 "Exposure controls/personal protection"

SECTION 7 Handling and storage

- 7.1. Precautions for safe handling** : Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
- 7.2. Conditions for safe storage, including any incompatibilities** : Store :
- in a cool, well-ventilated area
- at temperature not exceeding 50°C
- away from any source of ignition
Keep away from combustible material.
- 7.3. Specific end use(s)** : None

SECTION 8 Exposure controls/personal protection

- 8.1. Control parameters**
- Engineering measures** : Ensure good ventilation of the work station
- 8.1.1. Occupational Exposure Limits** : Carbon dioxide : USA (NIOSH) : REL - TWA (8h; mg/m³) : 9000
Carbon dioxide : USA (NIOSH) : REL - TWA (8h; ppm) : 5000
Carbon dioxide : USA (NIOSH) : REL - STEL (15min; mg/m³) : 54000
Carbon dioxide : USA (NIOSH) : REL - STEL (15min; ppm) : 30000
Carbon dioxide : European Union : VME (8h; mg/m³) : 9000
Carbon dioxide : United Kingdom : WEL - STEL (15min; mg/m³) : 54000
Carbon dioxide : European Union : VME (8h; ppm) : 5000
Carbon dioxide : United Kingdom : WEL - STEL (15min; ppm) : 15000
Carbon dioxide : Germany : MAK - STEL (15min; mg/m³) : 18200
Carbon dioxide : Germany : MAK - STEL (15min; ppm) : 10000
Carbon dioxide : Belgium : GWBB - STEL (15min; mg/m³) : 54784
Carbon dioxide : Belgium : GWBB - STEL (15min; ppm) : 30000
- 8.2. Exposure controls**
- Personal protection :**
- **Respiratory protection** : In a confined area :
Mask with AX canister
Self-contained breathing apparatus (ARI)
- **Hand protection** : Leather or nitrile-rubber protective gloves
- **Eye protection** : Safety goggles
- **Skin protection** : Majority cotton clothing
Safety foot-wear

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SECTION 9 Physical and chemical properties
9.1. Information on basic physical and chemical properties
9.1.a. Appearance
Physical state : Liquefied gas

Colour : Colourless

9.1.b. Odour : No odour warning properties.

9.1.c. Odour threshold : No data

9.1.d. pH : Not applicable

9.1.e. Melting point / Freezing point : -56,6 °C

9.1.f. Initial boiling point - boiling range : - 78,5 °C

9.1.g. Flash point : Not applicable

9.1.h. Evaporation rate : Not applicable

9.1.i. Flammability : Non flammable.

9.1.j. Explosion limits (lower - upper) : Not applicable

9.1.k. Vapour pressure : 57,3 bar at 20 °C

9.1.l. Vapour density : 1,52 (Air =1)

9.1.m. Relative density : 0,82 (Water =1)

9.1.n. Solubility
-in water : Complete

9.1.o. Partition coefficient : n-octanol / water : 0,83 (log POW)

9.1.p. Auto-ignition temperature : Not applicable

9.1.q. Thermal decomposition : No data

9.1.r. Viscosity : Not applicable

9.1.s. Explosive Properties : Not explosive material according to EC criteria

9.1.t. Oxidising properties : Non oxidizing material according to EC criteria

9.2. Other information : No information available

SECTION 10 Stability and reactivity
10.1. Reactivity : -

10.2. Chemical stability : Stable at ambient temperature and under normal conditions of use

10.3. Possibility of hazardous reactions : None

10.4. Conditions to avoid : - high temperatures

10.5. Incompatible materials : None

10.6. Hazardous decomposition products : None

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SECTION 11 Toxicological information
11.1. Information on toxicological effects

Acute toxicity	: Suffocation hazard by lack of oxygen
Skin corrosion/irritation	: Not irritating to skin
Serious eye damage/irritation	: Not irritating to eyes
Respiratory or skin sensitization	: No sensitizing effect is known
Germ cell mutagenicity	: No mutagenic effect
Carcinogenicity	: No carcinogenic effect
Reproductive toxicity	: No teratogenic effect
STOT-single exposure	: No observed effects
STOT-repeated exposure	: No observed effects
Aspiration hazard	: Not applicable

SECTION 12 Ecological information
12.1. Toxicity

Effects on the aquatic environment : No known ecological damage caused by this product.

12.2. Persistence and degradability : No information available

12.3. Bioaccumulative potential

Octanol/water partition coefficient : 0,83

12.4. Mobility in soil : No information available

12.5. Results of PBT and vPvB assessment : This substance is considered not to be PBT and vPvB

12.6. Other adverse effects

Ozone depletion potential : ODP (R-11=1)=0

Greenhouse effect : GWP (CO2=1/100 years) = 1

SECTION 13 Disposal considerations

13.1. Waste treatment methods : Dispose of in accordance with relevant local regulations
Consult the manufacturer or supplier for information regarding recovery and recycling of the product

NOTE : The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal

SECTION 14 Transport information

14.1. UN number : UN 1013

14.2. UN proper shipping name : CARBON DIOXIDE

14.3. Transport hazard class(es)

Rail/road (RID/ADR) : Class : 2

Sea transport : Class : 2.2

Air transport (OACI/IATA) : Class : 2.2

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SECTION 14 Transport information (continued)

Hazard Label(s)



: 2.2

14.4. Packing group

: Not applicable

14.5. Environmental hazards

 : Not classified as dangerous to the aquatic environment
 Marine pollutant : NO

14.6. Special precautions for user
Rail/road (RID/ADR)

 : Tunnel restriction code : (C/E)
 Hazard identification number : 20
 Classification code : 2A

Sea transport

 : EmS Nr : F-C, S-V
 Segregation group : -

Air transport (OACI/IATA)

 : Cargo aircraft:
 Packing instruction: 200
 Quantity: 150 kg
 Passenger aircraft:
 Packing instruction: 200
 Quantity: 75 kg

NOTE

 : The above regulatory prescriptions are those valid on the date of publication of this sheet
 However, given the possible evolution of transport regulations for hazardous materials, in
 case the present sheet is dating back to more than 12 months ago, it would be advisable to
 check their validity with your commercial agency

SECTION 15 Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

15.2. Chemical safety assessment : Not applicable

SECTION 16 Other information
Further information

 : Product for industrial use only
 For more information regarding the use of this product, please refer to our technical
 information or contact the sales department in your region
 This safety data sheet has been written in conformity with the regulation (UE) 453/2010.

Text of H-Phrases in § 3

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

*** Update**

: Modifications are indicated by an asterisk (*)

This sheet complements the technical sheets but does not replace them. The information given is based on our knowledge of the product, at the time of publication. It is given in good faith.

Besides, the attention of the user is drawn to the possible risks incurred by using the product for any other use than that for which it was intended.

In no way does this exempt the user from knowing and applying all the regulations controlling his activity. He alone will take on the responsibility for taking the precautions involved by the use of the product.


The aim of all the mandatory regulations mentioned is just to help the user to fulfil his obligations regarding the use of hazardous products.

This information must not be considered exhaustive. It does not exempt the user from ensuring that other obligations than those

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mentioned could apply, related to the storage and use of the product, this being his sole responsibility.

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