

# Carbon dioxide (refrigerated)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Date of issue SDS: 22/11/2010

Review date SDS: 22/11/2010

SDS Version: 1.0

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Name : Carbon dioxide (refrigerated)  
EC no : 204-696-9  
CAS no : 124-38-9  
Formula : CO<sub>2</sub>  
Registration status : listed in ANNEX IV (Exemptions from the obligation to register in accordance with article 2 (7))

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec. : Food and fodder additive  
Water treatment chemicals  
Refrigerant  
Carbonisation of soft drinks

##### 1.2.2. Uses advised against

No data available

#### 1.3. Details of the supplier of the safety data sheet

ACP Belgium N.V./S.A.  
Dellestraat 55  
3550 Heusden-Zolder - Belgium  
T +32 13 53 03 03 - F +32 13 53 03 00  
[SHEQ@acpco2.com](mailto:SHEQ@acpco2.com) - <http://www.acpco2.com>

#### 1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

##### 2.1.1. Classification according to Regulation (EC) N° 1272/2008 [CLP/GHS]

Refrigerated liquefied gas H281

For the full text of classification codes and/or H-phrases in this section, see section 16.

##### 2.1.2. Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

##### 2.1.3. Adverse physicochemical, human health and environmental effects

No data available

#### 2.2. Label elements

##### 2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

CLP Pictograms :



GHS04

CLP Signal word : Warning  
CLP Hazard statements : H281 - Contains refrigerated gas; may cause cryogenic burns or injury  
CLP Precautionary statements : P282 - Wear cold insulating protective clothing.  
P315 - Get immediate medical advice/attention  
P336 - Thaw frosted parts with lukewarm water. Do not rub affected area  
P403 - Store in a well-ventilated place

##### 2.2.2. Labelling according to Directive 67/548/EEC or 1999/45/EC

No labelling required.



# Carbon dioxide (refrigerated)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

### 2.3. Other hazards

Other hazards : Risk of suffocation at high concentration.

## 3. Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Carbon dioxide (refrigerated) (Main constituent)	(CAS no) 124-38-9 (EC no) 204-696-9	> 99.5	
Name	Product identifier	%	Classification according to Regulation (EC) N° 1272/2008 [CLP/GHS]
Carbon dioxide (refrigerated) (Main constituent)	(CAS no) 124-38-9 (EC no) 204-696-9	> 99.5	Refrigerated liquefied gas, H281

For the full text of R- and H-phrases in this section, see section 16.

### 3.2. Mixtures

Not applicable

## 4. First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Take the affected person into the fresh air and sit him quietly. In case of unconsciousness place in unconscious position and seek medical advice.

First-aid measures after skin contact : In cases of frostbite rinse with ample water. Do not remove clothing. Consult physician immediately.

First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

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

Symptoms/injuries after inhalation : Vapours are heavier than air and will spread at floor level. Highly concentrated gas may cause suffocation. Victim is not aware of suffocation. Repeated dose toxicity: Drop in blood pressure.

Symptoms/injuries after skin contact : Can cause frostbite.

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

No data available

## 5. Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : In case of fire, all extinguishing media allowed.

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

Fire hazard : Non-flammable.

Explosion hazard : Heating may cause an explosion.

### 5.3. Advice for firefighters

Other information (firefighting) : In case of fire: Stop leak if safe to do so.

## 6. Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment : Suitable respiratory protective equipment. Wear protective gloves/protective clothing.

Emergency procedures : In case of fire: Stop leak if safe to do so.

#### 6.1.2. For emergency responders

Protective equipment : Wear protective gloves/protective clothing. Suitable respiratory protective equipment.

### 6.2. Environmental precautions

No data available

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

For cleaning up : Ventilate affected area.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : General protection and hygiene measures. Obtain special instructions before use.

# Carbon dioxide (refrigerated)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

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

Storage temperature : < 50 °C  
Storage area : Store in a well-ventilated place. Keep cool.  
Containers : material selection : Keep only in original container.

### 7.3. Specific end use(s)

No data available

## 8. Exposure controls/personal protection

### 8.1. Control parameters

Carbon dioxide (refrigerated) (124-38-9)			
Belgium	Limit value	9131 mg/m <sup>3</sup>	5000 ppm
Belgium	Short time value	54784 mg/m <sup>3</sup>	30000 ppm
France	VME (mg/m <sup>3</sup> )	- mg/m <sup>3</sup>	5000 ppm
Germany	TRGS 900 Occupational exposure limit value	9100 mg/m <sup>3</sup>	5000 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	- mg/m <sup>3</sup>	5000 ppm
Italy - Portugal - USA ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	- mg/m <sup>3</sup>	30000 ppm
The Netherlands	MAC TGG 8H	9000 mg/m <sup>3</sup>	- ppm
Australia	TWA (mg/m <sup>3</sup> )	9000 mg/m <sup>3</sup>	5000 ppm
Australia	STEL	18000 mg/m <sup>3</sup>	10000 ppm

### 8.2. Exposure controls

Appropriate engineering controls : Avoid gas accumulation by mechanical or natural ventilation.  
Hand protection : cold insulating gloves.

## 9. Physical and chemical properties

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

Physical state : liquefied gas  
Colour : colourless.  
Odour : odourless.  
pH : 3.7  
Boiling point : - 78.5 °C  
Vapour pressure : 57300 hPa  
Relative density : 0.82  
Relative gas density : 1.5  
Critical temperature : 30 °C  
Critical pressure : 74803 hPa  
Solubility in water : 2000 mg/l  
Viscosity : 0.000015 Pa.s

### 9.2. Other information

No data available

## 10. Stability and reactivity

### 10.1. Reactivity

No data available

### 10.2. Chemical stability

The product is stable at normal handling- and storage conditions.

### 10.3. Possibility of hazardous reactions

No data available

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

No data available

## 11. Toxicological information

### 11.1. Information on toxicological effects

Other information : The gas can have an asphyxiating effect in high concentrations. Symptoms : headache, nausea, vomiting. This may lead to unconsciousness and possibly death.

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## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

### 12. Ecological information

#### 12.1. Toxicity

Ecology - water : Soluble

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LC50 fishes 1 | 35 mg/l (Salmo Gairdneri/Onchorhynchus Mykiss)

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

#### Carbon dioxide (refrigerated) (124-38-9)

Bioaccumulative Potential | Not bioaccumulable.

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

No data available

#### 12.6. Other adverse effects

Other information (adverse effects) : Global warming potential (GWP).

### 13. Disposal considerations

#### 13.1. Waste treatment methods

No data available

### 14. Transport information

#### 14.1. UN number

UN number : 2187

#### 14.2. UN proper shipping name

Proper Shipping Name : Carbon dioxide liquid refrigerated

Transport document description : UN 2187 Carbon dioxide liquid refrigerated, 2.2, (C/E)

#### 14.3. Transport hazard class(es)

##### 14.3.1. Overland transport

ADR class : 2 - Gases

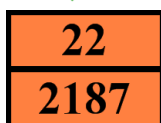
Danger code : 22

ADR classification code : 3A

ADR danger labels : 2.2 - Non-flammable compressed gas



Orange plates :



ADR tunnel restriction code : C/E

ADR limited quantities : LQ01

ADR excepted quantities : E1

##### 14.3.2. Transport by sea

IMDG class : 2.2

EMS number (1) : 2-12

##### 14.3.3. Air transport

ICAO class : 2.2

#### 14.4. Packing group

#### 14.5. Environmental hazards

Other information : No supplementary information available.

#### 14.6. Special precautions for user

No data available

# Carbon dioxide (refrigerated)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

## 15. Regulatory information

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

#### 15.1.1. EU-Regulations

No data available

#### 15.1.2. National regulations

No data available

### 15.2. Chemical safety assessment

No data available

## 16. Other information

Other information

: The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Full text of statements and phrases:

Refrigerated liquefied gas	Gases under pressure Refrigerated liquefied gas
H281	Contains refrigerated gas; may cause cryogenic burns or injury

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*