

# MATERIAL SAFETY DATA SHEET

## 1.0 IDENTIFICATION

Product Name : **Carbon dioxide**  
Use : Fire extinguishing and propellant  
Supplier :

Telephone :  
Fax :  
E mail :

## 2.0 HAZARDS IDENTIFICATION

Hazards identification : Liquefied gas.  
In high concentrations may cause asphyxiation

## 3.0 COMPOSITION/INFORMATION OF INGREDIENTS

Substance name	:	Contents	CAS No	EC No	Annex No	Classification
Carbon dioxide	:	100%	124-38	204-696-9	----	

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

## 4.0 FIRST AID MEASURES

Inhalation : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.  
Low concentrations of CO<sub>2</sub> cause increased respiration and headache.  
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 : Immediately flush eyes thoroughly with water for at least 15 minutes.

Contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

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

## 5.0 FIRE FIGHTING MEASURES

Not applicable as carbon dioxide is non-flammable and non combustible.  
Exposure to fire may cause containers to rupture/explode.

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## 6.0 ACCIDENTAL RELEASE

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.
Methods for cleaning up	:	Ventilate area.

## 7.0 HANDLING AND STORAGE

<b>Storage Handling</b>	:	Keep container below 50°C in a well ventilated place. Suck back of water into the container must be prevented. Do not allow backfeed into 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.
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## 8.0 EXPOSURE CONTROL/PERSONAL PROTECTION

<b>Personal protection</b>	:	Ensure adequate ventilation.
<b>Occupational Exposure</b>	:	Carbon dioxide : TLV©-TWA (ppm): 5000
<b>Limits</b>	:	Carbon dioxide : TLV©-STEL (ppm): 30000 Carbon dioxide : OEL (UK)-LTEL (ppm): 5000 Carbon dioxide : OEL (UK)-STEL (ppm): 15000 Carbon dioxide : MAK – Germany (ppm): 5000

## 9.0 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20°C	:	Liquefied gas.
Colour	:	Colourless.
Odour	:	No odour warning properties.
Molecular weight	:	44
Melting point (°C)	:	-56.6
Boiling point (°C)	:	-78.5 (s)
Critical temperature (°C)	:	30
Vapour pressure (20°C)	:	57.3bar
Relative density, gas (air=1)	:	1.52
Solubility in water (mg/l)	:	2000
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.

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## 10.0 STABILITY AND REACTIVITY

Stability and reactivity : Stable under normal conditions.

## 11.0 TOXICOLOGICAL INFORMATION

Toxicity information : In high concentrations cause rapid circulatory insufficiency. Symptoms  
Are headache, nausea and vomiting, which may lead to unconsciousness.

## 12.0 ECOLOGICAL INFORMATION

Ecological effects information : When discharged in large quantities may contribute to the  
Greenhouse effect.

Global warming factor (CO<sub>2</sub>=1) : 1

## 13.0 DISPOSAL

General : Do not discharge into any place where its accumulation could be dangerous.  
To atmosphere in a well ventilated place.  
Discharge to atmosphere in large quantities should be avoided.  
Contact supplier if guidance is required.

## 14.0 TRANSPORT INFORMATION

**When transported in a cartridge or side cylinder the cylinder is considered a class 2.2 hazard. The proper shipping name shall be CARBON DIOXIDE and the number is UN 1013.**

**When transported in a stored pressure or cartridge type fire extinguisher, the fire extinguisher is considered a class 2.2 hazard. The proper shipping name shall be FIRE EXTINGUISHER and the number is UN 1044**

## 15.0 REGULATORY INFORMATION

EC Classification : Not included in Annex 1.  
Not classified as dangerous preparation/substance.

EC Labelling : No EC labelling required.

Symbol(s) : None

R Phrase(s) : None

S Phrase(s) : None

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## 16.0 OTHER INFORMATION

**Training advice** : Asphyxiant in high concentrations.  
Keep container in a well-ventilated place.  
Do not breathe the gas.  
Contact with liquid may cause cold burns/frostbite.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Information source (data sheet) original chemical supplier Air Liquide. The information given is designed only as guidance for safe handling, uses processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.