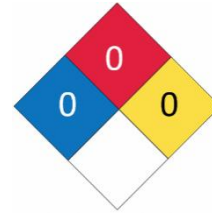




Label 2.2: Non-flammable,  
nontoxic gas



NFPA Rating

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Trade Name : Carbon Dioxide, Dry Ice (Solid).  
 Formula : CO<sub>2</sub>  
 Chemical Family : Acid Anhydride  
 Company Indentation : Barrak Industrial Gases Factory.  
 Emergency telephone number : +966 13 5826507

### SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	Product identifier	%
Carbon Dioxide	(CAS-No.) 124-38-9	>98%

### SECTION 3: HAZARDS IDENTIFICATION

**Emergency Overview** : Asphyxiant in high concentrations.

### SECTION 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. 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 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.

**Swallowing** : To swallow must be absolutely avoided, since coldness and developing pressure could be dangerous. Obtain medical assistance.

### SECTION 5: FIRE FIGHTING MEASURES

**Flammable class** : Non-flammable.  
**Extinguishing media** : All known extinguishants can be used.  
 - Suitable extinguishing media

**Hazardous combustion products** : None.  
**Specific physical and chemical Hazards** : Heat of fire can build pressure in cylinder and cause it to rupture. No part of cylinder should be subjected to a temperature higher than 52°C (125°F).

### SECTION 5: FIRE FIGHTING MEASURES (Continued)

<b>Specific methods</b>	: If possible, stop flow of product. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers.
<b>Protective equipment and precautions for firefighters</b>	: Firefighters should wear personal protective equipment and fire-fighting turnout gear as appropriate for surrounding fire.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	: Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.
<b>Environmental precautions</b>	: Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
<b>Cleanup methods</b>	: Ventilate area.

### SECTION 7: HANDLING AND STORAGE

<b>Precautions to be taken in handling</b>	Ensure adequate air ventilation. 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 handling instructions.
<b>Precautions to be taken in storage</b>	: Keep container below 50°C in a well ventilated place. Observe "Technische Regeln Druckgase (TRG) 280 Ziffer 5"

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering controls</b>	
<b>Local exhaust</b>	: Use a local exhaust system, if necessary, to keep the concentration of carbon dioxide below all applicable exposure limits in the worker's breathing zone.
<b>Mechanical (General)</b>	: Under certain conditions, general exhaust ventilation may be acceptable to keep carbon dioxide below the exposure limits
<b>Special</b>	: None.
<b>Other</b>	: None.
<b>Personal protective equipment</b>	
<b>-Skin Protection</b>	: Wear insulated neoprene gloves for cylinder handling; welding gloves for welding. When using carbon dioxide or carbon dioxide mixtures in welding and cutting. Regardless of protective equipment, never touch live electrical parts.
<b>Eye/Face Protection</b>	: when using carbon dioxide or carbon dioxide mixtures in welding and cutting.
<b>Respiratory Protection</b>	: None required under normal use. An air-supplied respirator must be used in confined spaces.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Odor	Odorless.
Sublimation Point at 1 atm	-78.5°C (109.3°F)
Melting Point at 1 atm	-56,6 °C
Sublimation point:	-78,5 °C
Critical temperature:	31 °C
Autoignition temperature:	Not applicable.
Flammability range	Not applicable.
Relative density, gas	1,52
Relative density, liquid	0,82
Vapour Pressure 20 °C	57,3 bar
Solubility mg/l water	2000 mg/l
Molecular Weight	44 g/mol
Molecular Formula	CO <sub>2</sub>

### SECTION 10: STABILITY AND REACTIVITY

**Chemical Stability** : Stable. Under normal conditions.

### SECTION 11: TOXICOLOGICAL INFORMATION

**General** : No known toxicological effects from this product.

### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity** : No Known effects.

**Other Adverse Effects** : No adverse ecological effects expected. Carbon dioxide does not contain any Class I or Class II ozone-depleting chemicals. When discharged in large quantities may contribute to the greenhouse effect.

### SECTION 13: DISPOSAL CONSIDERATION

**Waste Disposal Method** : Do not attempt to dispose of residual or unused quantities. Return cylinder to BGas.

### SECTION 14: TRANSPORT INFORMATION

#### Transport Information

- : 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.

### SECTION 15: OTHER INFORMATION

Asphyxiant in high concentrations.

The hazard of asphyxiation is often overlooked and must be stressed during operator training. Before using this product in any new process or experiment, a thorough material compatibility and safety stud should be carried out.

#### Hazard Rating Systems

NFPA Ratings:	HMIS Ratings:
Health =2	Health =1
Flammability =0	Flammability =0
Instability =0	Physical Hazard =3
Special = SA (CGA recommends this to designate Simple Asphyxiant).	

End of Documents