

Page : 1/6

Date: 15/9/2022

Revised edition no :1

Supersedes: 0/0/0

Carbon dioxide



1- IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

product name	Carbon dioxide	
Chemical formula	CO2	
company	Gases for medical and industrial gases	
Emergency phone numbers	23818102/23818109/23818032	
	Hot line 19802	

2- COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation

Substance

Substance name	Index Nr	EEC No	CAS No	Contents	Classification
Carbon dioxide		204-696-9	124-38-9	%100	

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

3- HAZARDS IDENTIFICATION

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



Page : 1/6

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4- FIRSTAIDMEASURES

Inhalation	In high concentrations may cause asphyxiation. Symptoms may	
	include loss of mobility/consciousness. Victim may not be aware of	
	asphyxiation. Low concentrations of CO2 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.	
Ingestion	Ingestion is not considered a potential route of exposure.	

5- FIRE FIGHTING MEASURES

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Flammable Class	Non flammable
Hazardous combustion products	None
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	If possible, stop flow of product. Move away from container
	away and cool with water from a protected position.
Special protective equipment for fire	In confined space use self-contained breathing apparatus.
fighters	



Page : 1/6

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6- ACCIDENTAL RELEASE MEASURES

Personal precautions Evacuate area

Ensure adequate air ventilation.

Wear self-contained breathing apparatus when

entering area unless atmosphere is proved to be safe.

Environmental precautions Try to stop release.

Prevent from entering sewers, basements and work pits, or any place where its accumulation can be

dangerous

Clean up methods Ventilate area.

7- HANDLING AND STORAGE

Storage	Keep container below 50°C in a well-ventilated place.
Handling	Water absorption into the container must be prevented. Do not allow back feeding into the container. Use only properly selected equipment appropriate for this product, supply pressure, and temperature. Contact the Gases Company for Medical and Industrial Gases in Egypt if you are in doubt. Refer to the instructions for handling containers of Gases Company for medical and industrial gases.

8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection	Ensure adequate ventilation.
Occupational Exposure limits	Carbon dioxide: TLV©-TWA [ppm]: 5000
	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



Page : 1/6

Date: 15/9/2022

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Carbon dioxide

9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State at	Liquefied	Critical	30 °C	Solubility mg/l	2000 mg/l
20°C	gas	temperature		water	
Molecular weight	44	Relative	1.52	Appearance/Color	Colorless
		density, gas			
		(Air=1)			
	-56.6 °C	Relative	0.82		No odor
Melting point		density, liquid		Odor	warning
		(water=1)			properties
Boiling point	-78.5 °C	Vapor Pressure	57.3 bar at	Flammability	Oxidizer
			20°C	range	
Other data	Gas/vapor heavier than air. May accumulate in confined Spaces, particularly at				
	or below ground.				

10- STABILITY AND REACTIVITY

Stability and reactivity Stable under normal conditions

11- TOXICOLOGICAL INFORMATION

General

In high concentrations cause rapid circulatory insufficiency.

Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.



Page : 1/6

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12- ECOLOGICAL INFORMATION

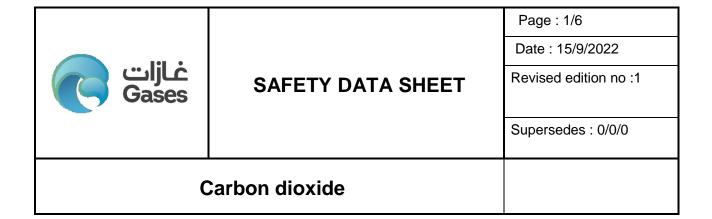
General	When discharged in large quantities may contribute to the greenhouse effect.
Global warming factor	1

13- DISPOSAL CONSIDERATIONS

General	Discharges to the atmosphere in large quantities
	should be avoided. Do not empty anywhere
	where accumulation can be dangerous. Contact
	a gas company for medical and industrial gases
	if necessary.

14- TRANSPORT INFORMATION

UN Nr	1013
Proper shipping name	Carbon dioxide, compressed
Class/Div	2.2
ADR/RID Item Nr	2.2
ADR/RID Hazard Nr	20
Labeling ADR	Label 2.2: non flammable non toxic gas
Other 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 they are firmly secured and: - Cylinder valve is closed and not leaking. - Valve outlet cap nut or plug (where provided) is correctly fitted. - Valve protection device (where provided) is correctly fitted. - There is adequate ventilation. - Compliance with applicable regulations.



15- OTHER INFORMATION

Asphyxiant in high concentrations. Keep container in well ventilated place. Do not breathe the gas. Ensure all national/local regulations are observed. 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 study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. This MSDS is for information purposes only and is subject to change without notice.

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