

MATERIAL SAFETY DATA SHEET - CARBON DIOXIDE

1. Identification of product/substance and company

Product Identifier	Carbon Dioxide / CO ₂
Trade Name	
Chemical Description	Carbon Dioxide
Chemical Formula	CO ₂
Registration No.	Listed in Annex IV / V REACH, exempted from registration
Use	Fire extinguishing agent

2. Hazards Identification

Hazard Pictograms Code	GHS04
Signal Word	Warning
Hazard Statements	H280: Contains gas under pressure; may explode if heated
Precautionary Statements	P403: Store in a well-ventilated place
R-Phrases	None
S-Phrases	None
Inhalation	High concentrations cause asphyxiation
Skin	Frostbite and burns from frostbite may occur on contact
Eyes	Could cause damage to the eyes on contact

3. Composition & Information on Ingredients

Reach No.	CAS No.	Ingredients	%	EU Classification
204-696-9	124-38-9	Carbon Dioxide	100	Liq. Gas (H280)

4. First Aid Measures

Contact with Skin	Flush the area with water for a minimum of 15 minutes. Medical attention is advised.
Contact with Eyes	Flush the area with water for a minimum of 15 minutes. Medical attention is advised.
Inhalation	This product can cause asphyxiation. Symptoms include loss of mobility and consciousness. Remove casualty from exposure and call for professional medical help. Use breathing apparatus. If breathing has stopped begin artificial respiration. Keep casualty warm.
Ingestion	Ingestion is not considered a potential route of exposure.

5. Fire Fighting Measures

There is no fire risk with carbon dioxide but emergency services must be made aware of the presence of cryogenic gas cylinders as they could detonate if heated causing danger & destruction. Spray cylinders with water from a protected position and maintaining a safe distance to keep the cylinder and contents cool. In confined spaces use self-contained breathing apparatus.

10. Stability & Reactivity

Stability	Stable
Hazardous decomposition products	None
Materials to avoid	Rubber & PTFE. Will embrittle materials not designed or intended to be used at low temperatures

11. Toxicological Information

Increased respiration at low concentrations.
 Symptoms: Headache, nausea and vomiting leading to unconsciousness.

12. Ecological Information

Cryogenic liquid escape can cause localised frost.
 Large discharges will contribute to the greenhouse effect.

13. Disposal Considerations

Avoid discharging large quantities into the atmosphere or where there is a danger of accumulations.

14. Transport Information

UN No.	1013	
Labelling	ADR, IMDG, IATA	
	2.2: Non-flammable, non-toxic gas	
Land Transport	ADR/RID	
	H.I. Nr	20
	UN Proper Shipping Name	CARBON DIOXIDE
	Transport Hazard Class	2
	ADR/RID Classification Code	2 A
	Packing Instructions – general	P200
	Tunnel Restriction	C/E Tank Carriage: Passage forbidden through tunnels of category C, D and E. Other carriage: Passage forbidden through tunnels of category E.
Sea Transport	IMO-IMDG Code	
	Proper Shipping Name	CARBON DIOXIDE
	Class	2.2
	IMO Packing Group	P200
	Emergency Schedule – Fire	F-C
	Emergency Schedule – Spillage	S-V
	Instructions – Packing	P200
Air Transport	ICAO/IATA	
	Proper Shipping Name	CARBON DIOXIDE
	Class	2.2
	Passenger and Cargo Aircraft Packing Instruction	200
	Cargo Aircraft Only Packing Instruction	200

15. Transport Information (cont'd)

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 emergency.

Before transporting product containers:

- Ensure that cylinders 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
- Ensure compliance with applicable regulations

16. Regulatory Information

Safety Phrases	Cylinders / vessels to be kept in a well-ventilated area. Use P.P.E. Do not breathe gas.
Risk Phrases	High concentrations cause asphyxiation. Risk of frostbite.
EC Classification	Not classified as a dangerous substance

17. Other Information

Employers' Responsibilities

It is the duty of employers to tell employees and others who may be affected of the hazards outlined in this sheet and the need to take precautions and adopt safety measures in a responsible manner.

Data Information

The data and advice outlined in these sheets apply to the product when sold for the application detailed in paragraph 1. Other risks may apply when the product is used for other purposes. Do not use the product for other purposes without applying for written advice and guidance from the company listed in paragraph 1.

Information Circulation

It is your duty to ensure that anyone handling the product (including those purchasing the product to supply it for third party use) are provided with the information contained in these sheets