

SAFETY DATA SHEET



Ref: GCS/SDS/0008

Carbon Dioxide (CO₂)

01 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product Name	Carbon Dioxide
Chemical Formula	CO ₂
Company Identification	Gas Container Services Ltd, Roadway No.7, Colwick Industrial Estate, Colwick, Nottingham. NG4 2JW
Emergency Phone Numbers	0115 987 0944

Carbon dioxide (CO₂) is supplied in high Pressure gas cylinders as a liquid under its own vapour pressure, each fitted with an outlet valve which must never be removed.

It is important that users know and understand the properties of CO₂ and how to handle safely high pressure gas cylinders before using CO₂

Always read the label on the cylinder

CARBON
DIOXIDE
E290

CO
UN



gcs

Gas Container Services

Roadway No.7, Colwick, Nottingham NG4 2JW

IN EMERGENCY
TEL. 0115 987 0944

Purity

Composition 99.8% conforms to BS 4105 parts 1 and 2 and E290

02 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	00124-38-9
EEC Nr (from NINECS)	204-696-9

03 HAZARDS IDENTIFICATION

Hazards identification	Liquefied gas. In high concentrations may cause asphyxiation.
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04 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 ₂ 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.

04 FIRST AID MEASURES . . . cont . . .

Ingestion	Ingestion is not considered a potential route of exposure.
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05 FIRE FIGHTING MEASURES

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

06 ACCIDENTAL RELEASE MEASURES

Personal precautions	Evacuate Area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved be be safe. Ensure adequate air ventilation.
Environmental precautions	Try to stop release only if safe to do so. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Clean up methods	Ventilate area.

07 HANDLING AND STORAGE

Handling and storage. Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. If in any doubt, contact your gas supplier.
Refer to supplier's container handling instructions.
Keep container below 50°C in well ventilated place.

08 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value – 5000 ppm (2000 edition).
TLV (ACGIH)
Exposure limit value for country Great Britain: STEL: 15000 ppm; LTEL: 5000 ppm (EH 40/97).
Germany: MAK= 5000 ppm.
Personal protection Ensure adequate ventilation.

09 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight 44.
Melting point -56.6°C.
Boiling point -78.5(s) °C.
Critical temperature 30°C.
Relative density, gas 1.52 (air=1).
Relative density, liquid 0.82 (water=1).
Vapour Pressure 20°C 57.3 bar.
Solubility mg/1 water 2000 mg/1.
Appearance/Colour Colourless gas.
Odour No odour warning properties.
Other data Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

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.
Carbon dioxide is mildly toxic, with no cumulative effects.

12 ECOLOGICAL INFORMATION

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

13 DISPOSAL CONSIDERATIONS

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.

13 DISPOSAL CONSIDERATIONS . . . cont . . .

Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

Proper shipping name Carbon dioxide
UN Nr 1013
Class/Div 2.2
ADR/RID Classification code 2, °A
ADR/RID Hazard Nr 20
Labelling 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 required) is correctly fitted.
- valve protection device (where provided) is correctly fitted.
- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I Dir Not included in Annex I.
67/548
EC Classification Not Classified as dangerous preparation.
EC Labelling *Symbols, R&S No EC labelling required
Phrases)

16 OTHER INFORMATION

Asphyxiant in high concentrations
Keep container in well ventilated place.
Do Not breathe the gas.
Contact with liquid may cause cold burns/frost bite.
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 as been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.
This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.
The MSDS is for information purposes only and is subject to change without notice. [Prior to purchase of products, please contact Gas Container Services Limited for a complete MSDS (with Manufacturer's name and emergency phone number).]