

Carbon Dioxide

SAFETY DATA SHEET

Issued: 30/11/2012 | Version 2

1. PRODUCT AND COMPANY

IDENTIFICATION

Product Name	Carbon Dioxide
Chemical Formula	CO ₂
Recommended Use	General Industrial
Company Name	Stargas, Limerick
Emergency Phone	087-7908108 (office hours only)

2. HAZARDS IDENTIFICATION

Liquefied gas under pressure. In high concentrations, may cause asphyxiation. When liquid carbon dioxide under pressure is released to atmosphere, the discharge consists of gaseous and solid carbon dioxide only. Slightly corrosive in the presence of moisture. Solid carbon dioxide (dry ice) is a fine white powder and when in contact with skin causes acute cold burns.

GHS Hazard Pictograms



3. COMPOSITION INFORMATION

Substance/Preparation	Substance
Composition	No other components
CAS No	00124-38-9
EINECS No	204-696-9

4. FIRST AID MEASURES

Inhalation

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 breathing apparatus.
Keep victim warm and rested. Call a doctor.
Apply artificial respiration if breathing stopped

Ingestion

Not considered a potential route of exposure

Skin contact

Not considered a potential route of exposure

Eye contact

Immediately flush eyes thoroughly with water for at least 15 minutes.

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

5. FIRE FIGHTING MEASURES

Specific hazard

Exposure to fire may cause containers to rupture or explode

Hazardous combustion products

None

Suitable extinguishing media

All known extinguishers can be used.

Specific methods

Move away from container and cool with water from a protected position.

Inform emergency services that cylinder has a bursting disc fitted which may rupture and allow the contents to fully discharge if the heat causes the pressure to increase beyond the safety level.

Special protective equipment for fire fighters

In confined space use self contained breathing apparatus.

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 workpits, or any place where its accumulation can be dangerous

Clean up methods

Ventilate area.

7. HANDLING AND STORAGE

Close cylinder valve when not in use to prevent contamination of cylinder. Open valve slowly to avoid pressure shock. Purge air from system before introducing gas. Do not allow back feed into cylinder. Use only properly specified equipment that is suitable for Carbon dioxide, its supply pressure and temperature. Keep cylinder below 50°C in a well ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Long term exposure limit LTEL 5000 ppm.

Short term exposure limit STEL 15000 ppm.

Ensure adequate ventilation. Carbon dioxide monitoring is recommended if stored or used in confined spaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Colour /Odour	Colourless odourless gas
Molecular Weight	44
Melting Point	-56.6°C
Boiling Point	-78.5°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/l water	2000 mg/l
Other Data	In high concentrations a sharp odour. Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10. STABILITY AND REACTIVITY

Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Low concentrations cause increased respiration. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.

12. ECOLOGICAL INFORMATION

No ecological damage caused by this product in small quantities (cylinders).

13. DISPOSAL CONSIDERATIONS

To atmosphere in a well ventilated place.
Do not discharge into any place where its accumulation could be dangerous

14. TRANSPORT INFORMATION

UN Number:	1013
Class/Div:	2.2
ADR/RID	
Classification code:	2A
ADR/RID Hazard Number:	20
Labelling ADR:	Non flammable non toxic gas

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 cylinders, ensure that they are firmly secured, that cylinder valve is closed and not leaking, that there is adequate ventilation and that applicable regulations are complied with

15. REGULATORY INFORMATION

Number in Annex 1 of Dir 67/548	Not included in Annex 1
EC Classification	Not classified as dangerous substance
Risk Phrases	O Non flammable Ras Asphyxiant in high concentrations
Safety Phrases	S9 Keep cylinder in a well ventilated place S23 Do not breathe the gas

16. OTHER INFORMATION

The information given here is based on the present state of knowledge and describes the product under the aspects of safety. It should not therefore be construed as guaranteeing specific properties. 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.

CYLINDER DETAILS

Cylinder Type	Nominal Capacity Kg	Pressure at 15°C	Approx Dimensions (mm)	Approx gross Cylinder weight (Kg)
34	34.0	50 bar	1410 x Ø240	100
MW	6.0	50 bar	700 x Ø175	17

Outlet Connection: BS341 No 8: Right hand 0.860" 14TPI male flat seal.