

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Product Name : Carbon Dioxide
Use : Fire Extinguishing and Propellant
Supplier : Britannia Fire Limited
Ashwellthorpe Industrial Estate
Ashwellthorpe
NR16 1ER
United Kingdom
Telephone : +44 (0) 1508 488416
Fax : +44 (0) 1508 481753
E mail : sales@britannia-fire.co.uk

2. HAZARDS IDENTIFICATION

Hazards identification : Liquified gas.
: In high concentrations may cause asphyxiation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	Contents	CAS No	EC No	Annex No	Classification
Carbon Dioxide	100%	124-38-9204-696-9		-----	

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 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. FIREFIGHTING MEASURES

Not applicable as carbon dioxide is non-flammable and non-combustible. Exposure to fire may cause containers to rupture/explode.

6. ACCIDENTAL RELEASE

6.4. Reference to other sections

Personal precautions : Evacuate area.
Wear self-contained breathing apparatus when entering area

	unless atmosphere is proved to be safe. Ensure adequate air ventilation.
Environmental precautions	: Try to stop release. Prevent entry to sewers, basements and workpits, or any place where its accumulation can be dangerous.
Clean up methods	: Ventilate area.

7. HANDLING AND STORAGE

Storage handling	: Keep container below 50°C in a well ventilated place. Suck back of water into the container must be prevented. Do not allow backfeed into container. 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 suppliers container handling instructions.
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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 (pm) : 15000 Carbon dioxide : MAK – Germany (ppm) : 5000

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20°C	: Liquefied gas.
Colour	: Colourless
Odour	: No odour warning properties.
Molecular weight	: 44
Melting point (°C)	: -56.6
Boiling point (°C)	: -78.5 (s)
Critical temperature (°C)	: 30
Vapour pressure (20°C)	: 57.3bar
Relative density, gas (air=1)	: 1.52
Solubility in water (mg/l)	: 2000
Flammability range (vol% in air)	: Non flammable
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.
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11. TOXICOLOGICAL INFORMATION

Toxicity information	: In high concentrations cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
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12. ECOLOGICAL INFORMATION

- Ecological effects information : When discharged in large quantities may contribute to the greenhouse effect.
- Global warming factor (CO₂=1) : 1

13. DISPOSAL

- General : Do not discharge into any place³ where its accumulation could be dangerous to atmosphere in a well vented place.
Discharge to atmosphere in large quantities should be avoided.
Contact supplier if guidance is require.

14. TRANSPORT INFORMATION

When transported in a cartridge or side cylinder the cylinder is considered a class 2.2 hazard. The proper shipping name shall be CARBON DIOXIDE and the number is UN1013.

When transported in a stored pressure or cartridge type fire extinguisher, the fire extinguisher is considered a class 2.2 hazard. The proper shipping name shall be FIRE EXTINGUISHER and the number is UN 1044.

15. REGULATORY INFORMATION

- EC Classification : Not included in Annex 1.
Not classified as dangerous preparation/substance.
- EC Labelling : No EC labelling required.
- Symbols : None
- R Phase(s) : None
- S Phase(s) : None

16. OTHER INFORMATION

- Training advice : Asphyxiant in high concentrations.
Keep container in a well ventilated place.
Do not breathe the gas.
Contact with liquid may cause cold burns/frostbite.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Information source (data sheet) original chemical supplier Air Liquide. The information given is designed only as guidance for safe handling, uses processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.