Broadman limited

Nitrogen + Carbon Dioxide

Product Name: **Asphyxiant (+ Carbon Dioxide)**
Chemical Formula: **N^2+CO^2**
Company identification: **Broadman Ltd, Wiltshire Road, Hull. HU4 6PA**
Emergency phone No: **01482 506 050**

Substance/Preparation: Preparation
Components/impurities: Contains the following components: Nitrogen and Carbon Dioxide. See table at bottom.

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

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Skin / Eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. In case of cold burn spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

Inhalation: Low concentrations of CO^2 cause increased respiration and headache. In high concentrations may cause asphyxiation. Symptoms may include loss of consciousness and mobility. Victim may not be aware of asphyxiation. Relocate victim to an uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call for emergency medical assistance. If breathing stops apply artificial respiration

Ingestion: Ingestion is not considered a route of exposure.

Specific Hazards: Exposure to fire may cause cylinders to rupture or explode. Non-flammable gas.

Hazardous combustion: None.

Suitable extinguishing media: All known extinguishers can be used.

Specific methods: If possible, stop flow of product. Move cylinder away or cool with water from a protected position.

Special protective equipment

For firefighters: In a confined space use self-contained breathing apparatus.

Personal protection: Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Small release: For a leaking cylinder, try to stop release by closing the cylinder valve if safe to do so.

Major release: Evacuate the area immediately. Frost will appear on the surface of the cylinder. The cylinder should be left to completely discharge and Broadman Ltd should be contacted.

Environmental precautions: Where possible prevent from entering low lying areas where its accumulation can be dangerous.

Clean up method: Ventilate area.

Handling and storage: Cylinders should be secured when stored or in use. Only use cylinders when in the upright position. Water ingress into the cylinder must be prevented. Do not allow backfeed into a cylinder. Cylinders which have been exposed to flooding in cellars, must not be used, and Broadman Ltd contacted for collection. Do not store cylinders next to a direct heat source. Keep cylinders below an ambient temperature of 50˚C. Failure to do so may cause pressure build up in the cylinder and the bursting disc to operate. Store in a well ventilated area, if this is not possible conduct a confined space risk assessment. Use only properly specified equipment which is suitable for the product, its supply pressure and temperature. Only open the cylinder valve when it is connected to the equipment. Open and close the valve slowly. Close the cylinder valve when not in use.

Exposure Limits: Carbon Dioxide Occupational Exposure standard (OES) Short Term Exposure Limit (STEL) 15000vpm. Long Term Exposure Limit (LTEL) 5000vpm (EH40/2002)

Personal Protection: Ensure adequate ventilation to keep below exposure limits.

Relative density GAS: Gas/vapour is heavier than air. May accumulate in confined spaces, particularly at or below ground level.

Solubility mg/l : No data available

Appearance / Colour : Colourless Gas

Odour: No odour warning properties

Stability and reactivity: Stable under normal conditions.

Toxicological information: Carbon Dioxide (which is normally present in atmospheric air at a level of approximately 350 vpm (0.035% v/v), regulated the breathing function and an increase in concentration will cause an increase in breathing rate. The occupational exposure standard (OES) is 5000 vpm (0.5%), but changes in the breathing rate may not be noticed until there is a concentration of 20000 vpm (2%) when the rate will increase to about 50% above the normal level. Prolonged exposure at this level for several hours may cause headache and a feeling of exhaustion.

Ecological Factor: When discharged to atmosphere Carbon Dioxide will contribute to the greenhouse effect. May cause pH changes to aqueous ecological systems.

UN No:	1956
Class/Div:	2.2
ADR/RID classification code:	1A
ADR/RID Hazard No:	20

Labelling ADR: Label 2.2: non-flammable, non-toxic gas

Transport information: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure the 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 ensure that cylinders are securely wedged.

Regulatory information:

Number in Annex 1 of Dir 67/548:	Not applicable for preparations
EC classification;	Not classified as a dangerous preparation.
Symbols:	Label 2: non-flammable non-toxic

Mixed Gas Nitrogen + Co^2,

Cylinder Label and valve.

Type	Cyl	Max Fill Pressure (bar)	Approx weight of Cyl Kg	Gas fill weight Kg	Gross weight Kg	Gas volume (m^3)
30% CO^2 in Nitrogen	10L Tall	200	16.5	3.45	19.95	2.48
	10L Shrt	200	21.0	3.45	24.45	2.48
	20L	200	30	6.27	36.27	4.51
	30L	200	45	9.72	54.72	6.99
	50L	200	65	16.33	81.33	11.74

Type	Cyl	Max Fill Pressure (bar)	Approx weight of Cyl Kg	Gas fill weight Kg	Gross weight Kg	Gas volume (m^3)
50% CO^2 in Nitrogen	10L Tall	200	16.5	4.20	20.70	2.75
	10L Shrt	200	21.0	4.20	25.20	2.75
	20L	200	30	7.73	37.73	5.06
	30L	200	45	11.93	56.93	7.81
	50L	200	65	22.25	87.25	12.94

Type	Cyl	Max Fill Pressure (bar)	Approx weight of Cyl Kg	Gas fill weight Kg	Gross weight Kg	Gas volume (m^3)
60% CO^2 in Nitrogen	10L Tall	180	16.5	4.53	21.03	2.80
	10L Shrt	180	21.0	4.53	25.53	2.80
	20L	180	30	8.32	38.32	5.12
	30L	180	45	12.85	57.85	7.92
	50L	180	65	20.99	85.99	13.14

The nominal volume of gas is measured at an ambient temperature of 15˚C and a pressure of 1013mb. Actual contents, volume and weights can vary around the figures stated above.

General Information The hazard of asphyxiation is often not stressed enough when handling cylinders, especially in confined spaces. Keep containers in well ventilated area. Contact with the liquid may cause burns or frost bite. For beverage dispense only. Details given above are believed to be correct at the time of publishing. Whilst every reasonable care has been taken in preparing this data sheet, no liability for injury or damage resulting from its use or interpretation can be accepted.