

Material Safety Data Sheet

Carbon Dioxide

1 Identification of the substance/preparation and of the company/undertaking

Product name : Carbon Dioxide Industrial Grade
Chemical formula : CO₂
Use of substance : General Industrial
Company : Dixons of Westerhope Ltd
Newbiggin Lane
Westerhope
Newcastle upon Tyne
NE5 1LX
Emergency contact : 0800 433 4331

2 Composition/information on ingredients

Components	EINECS/ELINCS	CAS	Concentration	Class
Carbon Dioxide	204-696-9	124-38-9	99.8%	

3 Hazards identification

Classification : Liquified gas under pressure. Refrigerated liquified gas may cause cryogenic burns or injury. When liquid CO₂ under pressure is released into the atmosphere, the discharge consists of gaseous and solid carbon dioxide only. Slightly corrosive in the presence of moisture. Direct contact with skin will cause acute cold damage to the skin "cold burn". One volume of liquid or solid will give circa 500 to 900 volumes of gas, respectively, at ambient conditions.

Emergency Overview : High pressure compressed gas
High concentrations may cause asphyxiation

4 First aid measures

Inhalation : Remove victim to fresh air wearing self contained breathing apparatus. Keep victim warm and rested. Apply artificial respiration if breathing has stopped. In case of shortness of breath, give oxygen. Call a doctor.

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

Skin contact : May cause cryogenic burns. In case of frostbite spray with water for at least 15 minutes. Apply sterile dressing. Obtain medical assistance.

5 Fire-fighting measures

Extinguishing media : All known extinguishing media can be used.

Specific hazards : Upon exposure to intense heat or flame, cylinder will vent rapidly or rupture violently. Product is non-flammable and does not support combustion. Move away from container and cool with water from a protected position. Keep containers and surroundings cool with water spray.

Protective equipment : Wear self-contained breathing apparatus for fire fighting if necessary.

6 Accidental release measures

Personal precautions : Evacuate the area. Monitor oxygen level and ventilate the area. Unless atmosphere is safe, wear self contained breathing apparatus.

Environmental precautions : Try to stop release. Prevent from further leakage if safe to do so. Do not discharge into low areas (e.g. basements)

Clean up methods : Ventilate the area.

7 Handling and storage

Handling : Open valve slowly. Do not allow backfeed into the container. Do not remove safety labels. Always use with specified equipment fit for purpose

Storage : Keep container in a well ventilated area. Store cylinder below 50°C

See reverse for further handling, usage and storage guidelines

8 Exposure controls/personal protection

Exposure limits : Carbon dioxide TWA : EH40 OES 5,000 ppm
Carbon dioxide STEL : EH40 OES 15,000 ppm
Carbon dioxide TWA : EU ELV 5,000 ppm

Personal protection : Ensure adequate ventilation. Wear sturdy work gloves, safety glasses and safety shoes.

9 Physical and chemical properties

Form : Compressed gas

Colour : Colourless gas

Odour : A sharp smell in high concentrations

Molecular weight : 44 g/mol

Vapour density : 1.52 (air = 1)

Vapour pressure : 57.3 bar at 20°C

Specific volume : 0.8615 m₃/kg at 21°C

Sublimation point : -78.5°C

Water solubility : 2 g/l

10 Stability and reactivity

Chemical stability : Stable under normal conditions

Hazardous decomposition products : None

11 Toxicological information

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

Discharge in large quantities may contribute to the greenhouse effect

13 Disposal considerations

Return cylinders to the supplier (used and unused)

14 Transport Information

Proper Shipping Name : Carbon Dioxide Compressed

UN ID no. : UN1013

Labelling ADA : 2.2 : Non flammable gas

ADR/RID hazard ID no. : 20

Labelling :



Further information : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting gas cylinders

1. Ensure that cylinders are secured
2. Ensure cylinder valves are closed
3. Ensure cylinder shroud is secure
4. Ensure there is adequate ventilation
5. Ensure the driver knows what to do in the event of an emergency

15 Regulatory information

Labelling according to EEC directive

Number in Annex I of Dir : Not included in Annex I. 67/548

16 Other information

Ensure all national and local regulations are observed.

R-phrase(s) Substance/preparation : R00 There are no known health hazards. Components prepared by : Dixons of Westerhope Limited. 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.

Statements; H281 Contains refrigerated gas, may cause crogenic burns / EIGA-As Asphyxiant in high concentrations / P282 Wear cold insulating gloves, face shield and eye protections / P336 and P315 Thaw frosted parts with lukewarm water, do not rub affected area, seek immediate medical advice and attention / P403 Store in a well ventilated place

Disclaimer of Liability:

Details given in this document are believed to be correct at the time of going to press. 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.

In case of emergency
0800 433 4331

Additional storage, usage & handling advice

Guidance for storing gas cylinders

- Store cylinders in a well-ventilated covered area, preferably outside on a level, well-drained surface. If this is not reasonably practicable, store in an adequately ventilated building or part of a building specifically reserved for this purpose
- Full and empty cylinders should be stored separately
- Cylinder stocks should be rotated so that the oldest cylinders are used first
- Cylinders should be stored vertically and securely fastened to prevent them from falling over
- Segregate cylinder by properties of gas

Flammable

Oxidising

Inert etc.

- Ensure that gas cylinder valves are kept shut on empty cylinders
- Avoid storing gas cylinders so that they stand or lie in water - Oxygen must be stored away from oil or grease
- Protect gas cylinders from external heat sources that may adversely affect their mechanical integrity
- Gas cylinders containing flammable gas should not be stored in part of a building used for other purposes
- Do not store other products in a cylinder store, in particular flammable materials such as fuel, oil, paint or corrosive liquids
- Gas cylinders must be clearly marked to show what they contain and the hazards associated with their contents
- Store cylinders where they are not vulnerable to hazards caused by impact from vehicles such as fork-lift trucks
- Do not store LPG cylinders within three metres of other gas cylinders - The use of a firewall reduces the distance to 1.5 meters

There are specific requirements for certain products. Storage of cryogenic, liquefied (e.g. Propane) and heavier than air compressed gases should be sited with due regard to the dangers of gases collecting in low-lying areas such as drains, basements and ducts.

It is advisable to label your storage area with relevant hazard labels and colour code chart.

Guidance for handling gas cylinders

- When required, wear suitable safety shoes and other personal protective equipment when handling gas cylinders
- Carry cylinders close to your body to reduce stress on your back
- Gas cylinders should not be raised or lowered on the forks of lift trucks unless precautions are taken to prevent them from falling
- It is advisable to use a trolley if moving several cylinders to reduce risk of injury
- Do not drop, roll or drag gas cylinders
- Do not attempt to lift cylinders if they are located in a position where you have to lean over or stretch to carry them, this can cause back strain
- Use the correct techniques for lifting heavy objects
- Ensure that the valve is protected by a shroud that has been designed to withstand impact if the cylinder is dropped
- Fit suitable protective caps and covers to cylinders, when necessary, before transporting. Caps and covers help prevent moisture and dirt from gathering in the valve of the cylinder, in addition to providing protection during transport

Guidance for using gas cylinders

- Use gas cylinders in a vertical position, unless specifically designed to be used otherwise
- Always double check that the gas is the right one for the intended use
- Before connecting a gas cylinder to equipment, make sure that the regulator and pipework are suitable for the type of gas and pressure being used
- When not in use, disconnect regulators and hoses from cylinders whenever practicable
- Do not use gas cylinders for anything other than the transport and storage of gas

Only use cylinders filled by a reputable gas company who fills and tests cylinders regularly in accordance to regulations. Only ever return empty gas cylinders to the supplier from which they were purchased. Never attempt to fill a Hobbyweld cylinder from another gas cylinder.