

HEALTH & SAFETY INFORMATION
Product Safety Data Sheet
CARBON DIOXIDE

Ref: HS6
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IDENTIFICATION OF SUBSTANCE/PREPARATION & COMPANY UNDERTAKING

Product Name:	Carbon Dioxide, Refrigerated Liquid (Co2)
Application:	Gas used for fire extinguisher medium
Supplied by:	Pakex UK Plc
	1 Prime Point, Welwyn Garden City, Herts, AL7 1FE
Telephone:	01707 384858
Fax:	01707 332838
E-mail:	sales@pakexuk.com

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	
Product Type:	Substance
Components:	None which influence classification
CAS Number:	00124-38-9
EEC Number:	2046969 (from EINECS)

HAZARDS IDENTIFICATION

Contact with eyes:

May cause damage upon contact.

Contact with skin:

May cause burns or frostbite on contact.

Inhalation:

Asphyxiant at high concentrations.

FIRST AID MEASURES

Contact with the eyes:

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

Contact with the skin:

Immediately flush the affected area with water for at least 15 minutes. Obtain medical assistance.

Inhalation:

Symptoms may include loss of mobility/consciousness. Using breathing apparatus, remove casualty from exposure. Call a doctor. Keep casualty warm and rested. If breathing stopped, apply artificial respiration.

Ingestion:

Not applicable

FIRE FIGHTING MEASURES

Suitable Extinguishing Media: All know extinguishants can be used. However , no fire risk will arise with carbon dioxide.

Ensure that the emergency services are aware of the presence of cryogenic gas storage vessels on the premises, If there is no risk, close valve and remove container from the affected area. Contact between cryogenic liquid and fire-fighting media can cause rapid vaporisation with accompanying volume expansion. Water spray may be used from a protected position to keep containers cool.

Specific Hazard: The container may detonate if heated.

Protective Equipment: In confined spaces, use self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Evacuate area. Wear suitable protective clothing, Wear self-contained breathing apparatus if it is necessary to enter the area.

Environmental Protection:

Close the valve, and/or remove container to open air if safe to do so. Prevent from entering basements, workpits, sewers and other low-lying area where accumulation could be dangerous.

HANDLING AND STORAGE

Only trained personnel should handle or use containers. Do not subject containers to excessive heat or mechanical shock. Where possible, containers should be out of doors or in a well-ventilated place. Prepare and implement a procedure to deal with any emergency. Obey all in-house and statutory regulations. If more than one gas or mixture is kept, ensure that they can be readily identified and separated if necessary. Use only equipment suitable for the gas(es), temperatures and pressure involved and inspect regularly. Do not remove labels from containers. Do not handle containers by valves. Do not use oil or grease on valves, fittings or any other equipment. Always close valves using moderate force only, even when the container is empty. Use a suitable pressure regulator. Fit a non-return system if there is any risk of backflow into the container. Containers should be kept upright even when empty. Do not transfer this gas into another container by decantation or re-pressurisation.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational:
Exposure Limits: Long Term – 5000 ppm
Short Term – 15000 ppm

Eye Protection:

Use Suitable goggles.

Hand protection:

Use suitable gloves.

Skin Protection:

Avoid contact with the skin, use suitable protective clothing.

Respiratory Organ Protection:

Use breathing apparatus.

Ingestion:

Not applicable

Suggested Ventilation:

Use in well ventilated area. Avoid basements, workpits, sewers etc., where accumulation could be dangerous.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid or gas *
Odour:	No odour warning properties
Flammability:	None
Symbol/Formula:	Co2
Boiling Point (c):	- 78.5 c @ 1 atmosphere
Oxidising Properties:	None
Relative Density (gas):	Slightly heavier than air
Solubility in water:	Slightly soluble
Formula Mass:	40g mol l
Critical Temperature:	30 c
Volume Expansion Ratio (liquid to gas)	535 at 15 c

* Cold gas may appear white due to 'fogging' of surrounding air

STABILITY AND REACTIVITY

Stability:	Stable in normal use
Conditions to avoid:	
Materials to avoid:	May caused embrittlement or damage to materials not designed for use at very low temperatures or for the pressures generated by vaporisation. Avoid rubber and PTFE materials.

TOXICOLOGICAL INFORMATION

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

ECOLOGICAL INFORMATION

General Notes: Discharging in large quantities may contribute to the greenhouse effect. Cryogenic liquid may cause localised frost damage.

DISPOSAL CONSIDERATIONS

Do not discharge into areas where its accumulation may be dangerous. Discharge large quantities to the atmosphere should be avoided.

TRANSPORT INFORMATION

Refer to the section 'Handling and Storage' above. Ensure that the driver has a copy of this document, is aware of the hazards and knows what to do in an emergency. Secure containers properly. Transport container upright. Regulators and other fittings should be disconnected. In case of accident or emergency, advise the emergency services of the presence of containers. Do not store containers in vehicles, remove them once the destination is reached. Fire-fighting equipment should be carried. Only use vehicles where the load is segregated from the drivers compartment. Extra regulations apply to vehicles carrying large quantities of dangerous substances. Contact CryoService for information concerning these, or for other transport information.

UN Number:	2187
Class:	2.2
ADR/RID Item No:	2.7a
ADR/RID Hazard No:	22
Labelling ADR:	Label 2:Non-flammable non-toxic gas

REGULATORY INFORMATION

EC classification:	Not classified as dangerous substance
Risk Phrases:	Asphyxiant in high concentrations May cause frostbite
Safety Phrases:	Keep container in well-ventilated place. Do not breathe gas. Use suitable protective equipment.

OTHER INFORMATION

The date and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use this product other than for the stated application or applications without seeking advice from us.

If you purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should have been taken.