Health & Safety Information: Carbon Dioxide

REFERENCE:	HS 6	**ISSUE NO:**	Four
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

Product Name: Carbon Dioxide. Refrigerated Liquid (CO_2)

Application: Gas used for fire extinguisher medium

Company: **Chase Fire**

Address: **Chandos Pole St, Derby DE22 3BJ**

Telephone (24 hrs): 01785 252568 **Fax:** 01332 203721

2. COMPOSITION/INFORMATION ON THE INGREDIENTS

Ingredients

Product Type	Components	CAS Number	EINECS Number
Substance	Non which influence the classification	00124-38-9	2046969

3. HAZARDS IDENTIFICATION

Skin: May cause burns of frostbite upon contact.

Eyes: May cause damage upon contact.

Inhalation: Asphyxiant a high concentrate.

4. FIRST AID MEASURES

4.1 Contact with the eyes

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

4.2 Contact with the skin

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

4.3 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.

4.4 Ingestion

Not applicable.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: All known extinguishers 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 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.

6. ACCIDENTAL RELEASE MEASURES

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

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

7. 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. 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), temperature and pressure involved and inspect regularly. Do not remove labels from containers. Do not handle containers by the 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. Containers should be kept upright even when empty.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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

8.1 Eye Protection

Use suitable goggles

8.2 Hand Protection

Use suitable gloves

8.3 Skin Protection

Avoid contact with the skin, use suitable protective clothing

8.4 Respiratory Organ Protection

Use breathing apparatus

8.5 Ingestion

Not applicable

8.6 Suggested Ventilation

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	odourless liquid or gas. (Cold gas may appear white due to 'fogging' of surrounding air.
Odour:	No odour warning properties.
Flammability:	None
Symbol/Formula:	CO_2
Boiling Point:	-78.5°C (@ 1 atmosphere)
Oxidising Properties:	None
Relative Density (gas):	Slightly heavier than air
Solubility In Water:	Slightly soluble
Formula Mass:	40g mol_{-1}
Critical Temperature:	30øC
Volume Expansion Ratio: (liquid into gas)	535 (@ 15°C)

10. STABILITY AND REACTIVITY

Stability: Stable in normal use

Materials to Avoid: May cause embrittlement or damage to materials not deigned for use at very low temperatures or for the pressures generated by vaporisation. Avoid Rubber and PTFE materials.

11. TOXICOLOGICAL PROPERTIES

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

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

Do not discharge into areas where it's accumulation may be dangerous. Discharging large quantities to the atmosphere should be avoided.

14. TRANSPORT INFORMATION

Refer to the section, 'Handling and Storage,' (above). Ensure that the driver has a copy of this document and is aware of the hazards and knows what to do in an emergency. Secure containers properly. Transport container upright. Regulators and other f ittings should be disconnected. In case of accident or emergency, advise the emergency services of the presence of containers. Only use vehicles where the load is segregated from the driver's compartment. Extra regulations apply to vehicles carrying large quantities of dangerous substances.

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

15. REGULATORY INFORMATION

EC Classification:	Not classified as a 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.

16. OTHER INFORMATION

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suita ble for any other application. Use of the product for applications other than stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the 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 of 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 be taken.