

Carbon Dioxide (Refrigerated)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758 and SI 2020/1577

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	Carbon Dioxide (Refrigerated)
CAS No.	124-696-9
EC No.	204-696-9
REACH Registration No.	Not applicable (exempt)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	Industrial and professional use.
Uses Advised Against	Medical and any use other than the above or as advised by the supplier.

1.3 Details of the supplier of the safety data sheet

Supplier	
Company Identification	Blended Products Limited
Address of Supplier	Elsham Wold Industrial Estate Brigg North Lincolnshire
Postal code	DN20 0SP
Telephone:	+44 (0) 1652 680555
Fax	Not known.
E-mail	technical@blendedproducts.com

1.4 Emergency telephone number

Emergency Phone No.	+44 (0) 1652 680555 (please use 'Option 4' for 24hr chemical/stock emergency number)
Contact	Please see above.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GB CLP Regulation, UK SI 2019/720 and Press. Gas (Ref. Liq.) :Contains refrigerated gas; may cause cryogenic burns or injury.
UK SI 2020/1567

2.2 Label elements

According to GB CLP Regulations, UK SI 2019/720 and UK SI 2020/1567
Product Name Carbon Dioxide (Refrigerated)

Hazard Pictogram(s)



GHS04

Signal Word(s) Warning

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Hazard Statement(s)	H281: Contains refrigerated gas; may cause cryogenic burns or injury.
Precautionary Statement(s)	P282: Wear cold insulating gloves and either face shield or eye protection. P336+P315: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention. P403: Store in a well-ventilated place.

2.3 Other hazards

None known.

2.4 Additional Information

For full text of H/P Statements see section 16.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / Registration number(s)	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Carbon dioxide, (refrigerated liquid)	124-38-9	204-696-9	100	Press. Gas (Ref. Liq.) H281	GHS04

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Treat symptomatically.
Skin Contact	Get immediate medical advice/attention. Thaw frosted parts with lukewarm water. Do not rub affected area.
Eye Contact	Treat symptomatically.
Ingestion	Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

None anticipated. Treat symptomatically.

4.3 Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media	As appropriate for surrounding fire.
Unsuitable extinguishing media	None.

5.2 Special hazards arising from the substance or mixture

Explosion risk. Explosion risk.

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5.3 Advice for firefighters

As appropriate for surrounding fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact.

6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning up

Allow small spillages to evaporate provided there is adequate ventilation.

6.4 Reference to other sections

See Also Section 8, 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear cold insulating gloves and either face shield or eye protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place.

Storage temperature

Ambient.

Storage life

Stable under normal conditions.

Incompatible materials

None known.

7.3 Specific end use(s)

Not known.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Carbon dioxide	124-38-9	5000	9150	15000	27400	

Region: United Kingdom
Source: UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark: Notes

8.2 Exposure controls

8.2.1. Appropriate engineering controls: Ensure adequate ventilation.

8.2.2. Personal protection equipment

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Eye Protection

Wear eye protection with side protection (EN166).



Skin protection

Wear protective clothing and gloves: Impervious gloves (EN 374).



Respiratory protection

Where engineering controls are not fitted or inadequate wear suitable respiratory protective equipment. A suitable mask with filter type A (EN14387 or EN405) may be appropriate.



Thermal hazards

None known.

8.2.3. Environmental Exposure Controls Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Gas (refrigerated liquid) Colour : colourless
Odour	Odourless
Odour threshold	Not applicable
pH	3.2 - 3.7 The pH of saturated CO ₂ solutions varies from 3.7 at 101 kPa (1 atm) to 3.2 at 2370 kPa (23.4 atm)
Melting point/freezing point	-56.6 °C
Initial boiling point	-78.5 °C
Sublimation point	-78.5 °C
Critical temperature	31.0 °C
Flash Point	Not applicable.
Evaporation rate	Not applicable
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	45.1 bar (10 °C)
Vapour density	1.522 (21 °C)
Relative density	1.512 (-56.6 °C)
Solubility(ies)	Solubility (Water) : 2.900 mg/l (25 °C) Solubility (Other) : Not known.
Partition coefficient: n-octanol/water	0.83
Auto-ignition temperature	Not known.
Decomposition Temperature (°C)	Not known.
Dynamic viscosity	0.07 mPa.s (20 °C)
Explosive properties	Not applicable
Oxidising properties	Not applicable

9.2 Other information

Molecular weight: 44.01 g/mol (CO₂)

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Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

None anticipated.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

10.4 Conditions to avoid

Keep away from heat and direct sunlight.

10.5 Incompatible materials

Not known.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Not classified.
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Not classified.
Skin corrosion/irritation	Not classified.
Serious eye damage/irritation	Not classified.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

11.2 Other information

Not known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.

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Toxicity - Algae Low toxicity to algae.

Toxicity - Sediment Compartment Not classified.

Toxicity - Terrestrial Compartment Not classified.

12.2 Persistence and degradability

Not known.

12.3 Bioaccumulative potential

Not known.

12.4 Mobility in soil

Not known.

12.5 Results of PBT and vPvB assessment

Not known.

12.6 Other adverse effects

Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose at suitable refuse site.

13.2 Additional information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. 2187

14.2 UN proper shipping name

UN proper shipping name CARBON DIOXIDE, REFRIGERATED LIQUID

14.3 Transport hazard class(es)

ADR/RID

ADR/RID Class 2

ADR Classification Code 3A

Special Provisions

Limited Quantities 120 ml

Excepted Quantities E1

Emergency Action Code 2T

Mixed Packing Instructions for Packages P203

Special Packing Provisions for Packages

Mixed Packing Instructions for Packages MP9

Packing Instructions for Portable Tanks T75

Special Provisions for Portable Tanks TP5

Tank Code for Tanks RxBN

Special Provisions for Tanks TU19 TA4 TT9

Vehicle for Tank Carriage AT

ADR Transport Category 3

Tunnel Restriction Code C/E

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Special Provisions for Carriage - Packages	V5
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, CV9 CV11 CV36 Unloading and Handling	
Special Provisions for Carriage - Operation	S20
ADR HIN	22
IMDG	
IMDG Class	2.2
Special Provisions	
Limited Quantities	120 ml
Excepted Quantities	E1
Mixed Packing Instructions for Packages	P203
Special Packing Provisions for Packages	
Packing Instructions for Portable Tanks	T75
Special Provisions for Portable Tanks	TP5
IMDG EMS	F-C, S-V
Stowage and Handling	Category D
Segregation	
Marine Pollutant	
ICAO/IATA	
IATA Proper Shipping Name	CARBON DIOXIDE, REFRIGERATED LIQUID
Excepted Quantities	E1
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Forbidden for transport by air.
Passenger and Cargo Aircraft Limited Quantities Max net Qty	Forbidden for transport by air.
Passenger and Cargo Aircraft Packing Instructions	202
Passenger and Cargo Aircraft Max net Qty	50Kg
Cargo Aircraft Packing Instructions	202
Cargo Aircraft Max net Qty	500Kg
Special Provisions	
Emergency Response Guidebook (ERG) Code	2L
Labels	
Labels	2.2



14.4 Packing group

Packing group

14.5 Environmental hazards

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Environmental hazards Not classified as a Marine Pollutant.

14.6 Special precautions for user

Special precautions for user Not known.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

The supplier does not supply this substance for bulk transport by vessel.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

United Kingdom Regulations - Authorisations and/or Restrictions On Use

UK REACH Candidate List of Substances Not listed
of Very High Concern for Authorisation

UK REACH Authorisation List (Annex XIV) list of substances subject to
authorisation Not listed

UK REACH Restrictions List (Annex XVII) Not listed
Restrictions on the manufacture, placing
on the market and use of certain
dangerous substances, mixtures and
articles

UK REACH Rolling Action Plan (RAP) Not listed

The Persistent Organic Pollutants
Regulations 2007 (SI 2007/3106) as
amended Not listed

The Ozone-Depleting Substances and
Fluorinated Greenhouse Gases
(Amendment etc.) (EU Exit) Regulations
2019 (SI 2019/583) Not listed

The Prior Informed Consent (PIC)
Regulations concerning the export and
import of hazardous chemicals
SI2008/2108 as amended Not listed

European Regulations - Authorisations and/or Restrictions On Use

Community Rolling Action Plan (CoRAP) Not listed

15.2 Chemical Safety Assessment

United Kingdom A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Hazard Pictogram(s)



GHS04

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Acronyms	ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road ATE : Acute Toxicity Estimate CAS : Chemical Abstracts Service DNEL : Derived No Effect Level EC : European Community EINECS : European Inventory of Existing Commercial Chemical Substances IATA : International Air Transport Association IBC : Intermediate Bulk Container ICAO : International Civil Aviation Organization IMDG : International Maritime Dangerous Goods LTEL : Long term exposure limit PBT : Persistent, Bioaccumulative and Toxic PNEC : Predicted No Effect Concentration REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals RID : Regulations concerning the International Carriage of Dangerous Goods by Rail STEL : Short term exposure limit STOT : Specific Target Organ Toxicity UN : United Nations vPvB : very Persistent and very Bioaccumulative

Key literature references and sources for GB CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 data used to compile the SDS

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