

SAFETY DATA SHEET

Pro Food Pure CO₂, Pro Vapour CO₂, CO₂ Vapour


ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830 AS AMENDED
BY UK REACH REGULATIONS SI 2019/758

Date of issue: 15/10/2025
Version: 1.0

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

1.1	Product identifier	
	Product name	Pro Food Pure CO ₂ , Pro Vapour CO ₂ , CO ₂ Vapour
	CAS No.	124-38-9
	EC No.	204-696-9
	REACH Registration No.	This substance is exempted from Registration according to the provisions of Article 2(7)a and Annex IV of REACH
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Identified Use(s)	Carbonation of beverages Modified Atmosphere Packaging (MAP) Chilling / freezing Transport cooling Beverage dispensing pH control in water treatment Anything other than the above.
	Uses advised against	
1.3	Details of the supplier of the safety data sheet	
	Company Identification	Pro Gases UK 28 Forth Street, Bootle, Liverpool, United Kingdom, L20 8JW
	Telephone	0151 922 1118
	E-mail (competent person)	info@progasesuk.com
1.4	Emergency Telephone Number	
	Emergency Phone No.	+44 (0) 127356 9048
	Language(s) spoken:	English
		Available 24/7

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain	Press. Gas (Comp.); H280
2.2 Label elements	
Product description	According to the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain Pro Food Pure CO ₂ , Pro Vapour CO ₂ , CO ₂ Vapour
Hazard Pictogram(s)	
Signal Word(s)	WARNING
Hazard Statement(s)	H280: Contains gas under pressure; may explode if heated.
Precautionary Statement(s)	P410+P403: Protect from sunlight. Store in a well-ventilated place.
2.3 Other hazards	Asphyxiant in high concentrations.

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

SUBSTANCE	CAS No.	EC No.	REACH Registration No.	%W/W
Carbon Dioxide	124-38-9	204-696-9	Exemptions apply	100

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

Inhalation

Skin contact

Eye contact

Ingestion

Asphyxiant in high concentrations. Avoid inhalation of high concentrations of gas. Eliminate sources of ignition. Use personal protective equipment as required. The vapour is heavier than air; beware of pits and confined spaces. If it is suspected that fumes are still present, the responder should wear an appropriate mask or self-contained breathing apparatus.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical advice/attention if you feel unwell.

No hazard expected under normal conditions of use. Get medical advice/attention if you feel unwell.

Not irritating to eyes. Get medical advice/attention if you feel unwell.

Oral exposure is considered to be not relevant.

Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician: The ingestion of significant quantities may cause delayed pulmonary oedema.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

As appropriate for surrounding fire. Foam, CO₂ or dry powder

Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

Compressed gas

Not flammable. Does not support combustion. The vapour is heavier than air; beware of pits and confined spaces.

Contains gas under pressure; may explode if heated. Sealed containers may rupture explosively if hot. Do not pierce or burn, even after use.

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Shut off source of leak if safe to do so. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Wear suitable protective clothing. Contaminated clothing should be thoroughly cleaned. The vapour is heavier than air; beware of pits and confined spaces.

6.2 Environmental precautions

Presents no hazard to the environment. Avoid release to the environment.

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- 6.3 Methods and material for containment and cleaning up**
- Small scale
Large scale
- Only trained and properly protected personnel must be involved in clean-up operations. Ensure adequate ventilation. Isolate the area and allow gas to disperse.
Allow gas to disperse naturally in a well-ventilated area. Prevent access until ventilation has restored safe oxygen level. (>19.5% O₂).
Evacuate area. Fight fire remotely due to the risk of explosion. Notify police and fire brigade as soon as possible. Prevent access until ventilation has restored safe oxygen level. (>19.5% O₂).
- 6.4 Reference to other sections**
See sections 8 and 13

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling**
The vapour is heavier than air; beware of pits and confined spaces. Avoid inhalation of high concentrations of gas. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Do not open valve until connected to equipment prepared for use. Do not eat, drink or smoke at the work place. Wash contaminated clothing before reuse. Wash hands before breaks and after work.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage temperature
Incompatible materials
Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Keep container in an upright position.
Keep cool. Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
- 7.3 Specific end use(s)**
Isolate from reducers and flammable/ combustible materials etc in storage.
See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
8.1.1 Occupational exposure limits

European Union

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	9000	-	-	-

Source: IOELV: Indicative Occupational Exposure Limit Value

United Kingdom (Great Britain & Northern Ireland)

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	-

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

- 8.1.2 Biological limit value**
Not established.
- 8.1.3 PNECs and DNELs**
Not established.
- 8.2 Exposure controls**
8.2.1 Appropriate engineering controls
Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources.
- 8.2.2 Individual protection measures, such as personal protective equipment**
Do not breathe gas. Fuels are typically used, transferred and transported in closed systems. Keep good industrial hygiene. Do not eat, drink or smoke at the work place.
- Eye/ face protection
Not normally required

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Recommended:

Use of liquid gas- Wear eye protection with side protection (EN166). Eyewash bottles should be available.

Skin protection



Not normally required

 Use of liquid gas- **Hand protection:** Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Suitable materials: Butyl rubber, Nitrile rubber.

Body protection: Apron or other light protective clothing, boots and plastic or rubber gloves.

Respiratory protection



In case of inadequate ventilation wear respiratory protection.

Recommended: BS EN 14387:2004+A1

Thermal hazards

Skin contact: Frostbite (cold burn).

8.2.3 Environmental exposure controls

Presents no hazard to the environment. Avoid release to environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless Compressed gas
Odour	Odourless
Odour threshold	Not available
pH	3.2 – 3.7
Melting point/freezing point	-56.6 °C
Initial boiling point and boiling range	-78.5 °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 (Air=1)	1.522 (21 °C)
Relative density	1.512 (-56.6 °C)
Solubility(ies)	Water solubility: 2900 mg/l (25 °C)
Partition coefficient: n-octanol/water	0.83
Auto-ignition temperature	Not applicable
Decomposition temperature	Not established
Viscosity	Not applicable
Explosive properties	Not explosive
Oxidising properties	Not oxidising.

9.2 Other information

None Known

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Stable under normal conditions.
10.2	Chemical stability	Chemically inert noble gas. Stable under normal conditions.
10.3	Possibility of hazardous reactions	No hazard expected under normal conditions of use.
10.4	Conditions to avoid	Keep away from heat and sources of ignition. Sealed containers may rupture explosively if hot. Use only in well-ventilated areas. In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation.
10.5	Incompatible materials	No known incompatible materials.

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10.6 Hazardous decomposition products

Does not decompose under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion

Based upon the available data, the classification criteria are not met.

Acute toxicity - Inhalation

Acute Toxicity Estimate Mixture Calculation: LD50 >2000 mg/kg bw

Based upon the available data, the classification criteria are not met.

Acute toxicity - Skin contact

Acute Toxicity Estimate Mixture Calculation: LC50 > 20,000 ppm (Gases)

Based upon the available data, the classification criteria are not met.

Skin corrosion/irritation

Acute Toxicity Estimate Mixture Calculation: LD50 >2000 mg/kg bw

Serious eye damage/irritation

Based upon the available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based upon the available data, the classification criteria are not met.

Germ cell mutagenicity

Based upon the available data, the classification criteria are not met.

Carcinogenicity

Based upon the available data, the classification criteria are not met.

Reproductive toxicity

Based upon the available data, the classification criteria are not met.

STOT - Single Exposure

Based upon the available data, the classification criteria are not met.

STOT - Repeated Exposure

Based upon the available data, the classification criteria are not met.

Aspiration hazard

Based upon the available data, the classification criteria are not met.

11.2 Other information

None.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Based upon the available data, the classification criteria are not met.

12.2 Persistence and degradability

LC50 (Fish): > 1000 mg/l/96h

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Not classified as PBT or vPvB.

None Known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste classification according to Directive 2008/98/EC
(Waste Framework Directive)

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

Not hazardous

13.2 Additional information

Pressurized container: Do not pierce or burn, even after use.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	1013	1013	1013
14.2 UN proper shipping name	Carbon Dioxide	Carbon Dioxide	Carbon Dioxide
14.3 Transport hazard class(es)	2	2	2
14.4 Packing group	None assigned	None assigned	None assigned
14.5 Environmental hazards	Not classified		
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable	Not applicable	Not applicable
14.8 Additional information			
Special Provisions	378, 392, 584, 653, 662		
Limited Quantities	120 mL		
Transport category	3		
Tunnel restriction code	(C/E)		

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SECTION 15: REGULATORY INFORMATION

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

15.1.1 EU regulations

Authorisations and/or restrictions on use Not restricted

15.1.2 National regulations

UK Authorisations and/or restrictions on use Not restricted

15.2 Chemical Safety Assessment

This substance is exempted from Registration according to the provisions of Article 2(7)a and Annex IV of REACH

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable – V1.0

References:

Existing Safety Data Sheet (SDS)

EU Harmonised Classification and Existing ECHA registration for Carbon Dioxide (CAS No. 124-38-9).

Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Legend

CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
EC	European Community
ECHA	European Chemicals Agency
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO/IATA	ICAO: International Civil Aviation Organization / IATA: International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
UK	United Kingdom
UN	United Nations
vPvB	very Persistent and very Bioaccumulative

Hazard classification / Classification code:

Press. Gas (Comp.); Pressurised gas (Compressed gas)

Hazard Statement(s)

H280: Contains gas under pressure; may explode if heated.

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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