

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Trade name	: Carbon Dioxide cartridges, max. 7,8gr CO ₂ cartridges
Synonyms	: 588406 Soda chargers 10pcs box
Chemical name	: Carbon Dioxide, CO ₂
CAS number	: 124-38-9
EC number	: 204-696-9
Registration number (REACH)	: Not applicable

According to EC 1272/2008 (CLP) Gas under pressure - Compressed Gas - CLP Pressure Gas - H280.
Classification EC 67/548 or EC 1999/45: Not classified as dangerous substance/mixture;
Not included in Annex VI; No EC labelling required.
Labelling regulation according to EC 1272/2008 (CLP):
REACH: listed in Annex IV / V of EC 1907/2006 exempted from registration.
Directive 2008/84/EC, page 28 "E290 Carbon Dioxide".

1.2 Relevant identified uses and uses advised against

Relevant identified uses	: Soda water / beer / cocktails / drinks and for other food grade carbonization purposes. Carbon dioxide cartridges are only suitable for the preparation of carbonated beverages in suitable devices. Use cartridges only in accordance with the instructions of the dispenser.
Uses advised against	: Do not use for any other purpose.

1.3 Details of the supplier of the safety data sheet

Supplier	: Hendi b.v., steenoven 21, 3911 TX Rhenen, The Netherlands tel: 0031 317 681040 www.hendi.eu
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1.4 Emergency telephone number : Contact National Poison Intoxication Centre

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Not classified as dangerous substance/mixture.
Not included in Annex VI. No EC labelling required.

2.2 Label elements

Not included in Annex VI. No EC labelling required.

2.3 Other hazards

Pressurized container.

The cartridges may not be sold to persons below 18 years of age. Contains gas under pressure; may explode if heated. Keep out of reach of children. Do not puncture or burn, even after use. Do not expose to direct sunlight. Do not expose to temperatures above 50°C. Store in a well ventilated place. Store in a cool and dry environment. These cartridges are compliant with the norm EN 16509. Contents: 10,4 ml (max. 7,8 g) pure carbon dioxide gas (CO₂) (E290) Disposal and processing: Contact your local waste disposal company. Keep aimed away from body or head during discharging and replacement. Attention: Do not refill. Do not dispose of full cartridges. Dispose of packaging only after using the last cartridge. Asphyxiant in high concentrations. Contact with liquid may cause cold burns/frostbite.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
3.1 Product definition of substance :

Chemical name	CAS number	EC number	% (v/v)	Hazard statements (CLP 1272/2008)
Carbon Dioxide (CO ₂)	124-38-9	204-696-9	99%	H280

SECTION 4. FIRST AID MEASURES
4.1 Description of first aid measures

Inhalation	: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, if needed given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.
Contact with skin	: Flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing
Contact with eyes	: Persons with potential exposure to carbon dioxide should not wear contact lenses.
Ingestion	: None

SECTION 5. FIREFIGHTING MEASURES
5.1 Extinguishing media

Suitable extinguishing media	: Carbon dioxide, water, water fog, dry chemical, chemical foam.
Unsuitable extinguishing media	: -

5.2 Special hazards arising from the substance or mixture

: Product is not flammable or combustible. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

5.3 Advice for fire fighters

: Self - contained respiratory equipment; cool chargers to prevent pressure build-up and possible explosion when exposed to extreme heat. Contents under pressure. Closed chargers can explode due to buildup of pressure when exposed to extreme heat. Do not use or store near heat sources.
 Hazardous Combustion Products: Smoke, fumes or vapors, oxides of carbon.

SECTION 6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment & emergency procedures:

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.

6.2 Environmental precautions

: Try to stop release. Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.

6.3 Methods and material for containment and cleaning up : Ventilate area.

SECTION 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling** : Keep charger closed when not in use; protect chargers from abuse; protect from extreme temperatures, keep away from sources of heat. Do not puncture charger. Do not attempt to refill charger. Keep away from direct sunlight and heat. Never dispose of full chargers. Never force open. Keep out of reach of children and minors. If charger is punctured, gas will escape and freeze charger, use hand-protection and obviate direct contact with charger to avoid cold-burns
- 7.2 Conditions for safe storage** : Do not heat. Maximum environmental temperature in use not to exceed 50°C (122°F). Store in a cool and dry location
- 7.3 Specific end use(s)** : Use original, undamaged cartridges which are only suitable for the preparation of carbonated beverages in suitable devices. Use cartridges only in accordance with the instructions of the dispenser.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

- Occupational exposure limit values : Carbon Dioxide (CAS 124-38-9)
 - OEL 8 hour TGG = 9100 mg/m³, 5000 ppm (Germany 2009; Finland 2007)
 - OEL 8 hour TGG = 9000 mg/m³, 5000 ppm (Denmark 2007; France 2008; Norway 2009; Switzerland 2009)
 - OEL 8 hour TGG = 9150 mg/m³, 5000 ppm (Spain 2010)
 - OEL 8 hour TGG = 9150 mg/m³, 5000 ppm; 15 min TGG = 27.400 mg/m³, 15.000 ppm (United Kingdom 2005)
 - OEL 8 hour TGG = 9000 mg/m³, 5000 ppm; 15 min TGG = 18.000 mg/m³, 10.000 ppm (Sweden 2005; Austria 2007)
 - OEL 8 hour TGG = 9131 mg/m³, 5000 ppm; 15 min TGG = 54.784 mg/m³, 30.000 ppm (Belgium 2009)
- DNEL / PNEC values : Carbon Dioxide (CAS 124-38-9)
 - DNEL: not available
 - PNEC's: not available

8.2 Exposure controls

- Engineering controls : The use of local exhaust ventilation is required to control emissions near the source. Provide mechanical ventilation of confined spaces.

Individual protection measures, such as personal protective equipment

- a) Eye/face protection : Keep away from head or body during discharge or replacement.
 b) Skin / hand protection : During discharge or replacement only work with dry hands to protect the fingers from freezing to the charger holder during filling.
 c) Respiratory protection : None required. Contains only maximum 10cm³ per loading.
 d) Other : Do not inhale!

- Environmental exposure controls : Not applicable

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on basic physical and chemical properties of CO₂ (E290 - 99% CO₂)

Odour and appearance	: A colorless, odorless gas.
Melting point (CO ₂ Sublimes)	: - 56.6°C (- 69.9°F)
Boiling point	: - 78.5°C (- 109.3°F)
Evaporation point	: Not Available
Vapour pressure at 20°C (68°F)	: 58 kg/cm ²
Vapour density at 20°C (68°F) 1 atm (Air = 1)	: 1.52
Solubility H ₂ O	: 0.82 g/L at 15°C, 100 kPa
Specific gravity	: Not available

9.2 Other information	: Pressure/temperature characteristics at filling density of 0.75 kg/liter: 57 bar at 20°C 170 bar at 50°C 245 bar at 70°C 365 bar at 100°C 400 bar at 110°C
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<u>Parameter of CO₂ cartridge</u>	<u>Metric units</u>
Overall Length (approx.)	: 65mm
Body Diameter	: 18mm
Neck Diameter	: 8.7mm
Internal Volume (approx.)	: 10.4 ml min.
Net weight of CO ₂ (approx.)	: 7.8 gr
Tare wt. of cartridges (approx.)	: 21 gr
Gross wt. of cartridges (approx.)	: 28.8 gr
Bursting pressure	: >500 bar

These cartridges are compliant with the norm EN 16509.
TUV test report cartridges on request available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not reactive under normal conditions.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Not reactive under normal conditions
10.4 Conditions to avoid	: Protect from extreme temperatures. Keep away from sources of heat. Do not puncture charger.
10.5 Incompatible materials	: Strong oxidizers, strong acids.
10.6 Hazardous decomposition products	: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes or vapors, and smoke may be produced.

SECTION 11. TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects

Hazardous Ingredients	CAS #	EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Carbon dioxide	124-38-9	204-696-9	Information not found	Inhalation-Rat 160 mg/m ³ /4 h

Specific toxicity tests have not been conducted on this product. Hazard evaluation is based on Information from similar products, the ingredients, technical literature, and/or professional experience.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Ecotoxicity** : No data available.
- 12.2 Persistence and degradability** : No data available.
- 12.3 Bioaccumulative potential** : No potential for bioaccumulation
- 12.4. Mobility in soil** : No data available.
- 12.5 Results of PBT & vPvB assessment:** Not applicable.
- 12.6. Other adverse effects** : Not applicable.

SECTION 13. DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods

Packaging materials: Recyclable steel in retail boxes and/or in bulk.

Dispose of cartridges in empty conditions only. Check your local sanitation department for recycling schedule, or contact local scrap metal companies. Never dispose of full cartridges.

SECTION 14. TRANSPORT INFORMATION
14.1 Transport by road (ADR)

- UN number : **UN 1013 Special Provision 584**
- Proper shipping name : CARBON DIOXIDE
- Transport hazard class(es) : 2.2 Non-flammable, non-toxic gas

Hazard symbol(s) :



This gas is not subject to the requirements of ADR (transport by road) when: A capsule contains not more than 25gr of this gas.

SECTION 15. REGULATORY INFORMATION
15.1 Safety, health and environmental regulations/legislation (EC)

REACH (EC 1907/2006)

- a) Substance of potential concern (Art.59) : Components are not included as substance of potential concern.

- b) Authorisation (Title VII) : Components are not included on authorisation list.
 c) Restrictions (Title VIII) : Components are not included on restriction list.

Other legislation (EC) : See section 13.
 National laws : See section 8.

15.2 Chemical safety assessment : Not applicable.

SECTION 16. OTHER INFORMATION

16.1 Revision comments

A vertical line in the left margin indicates that there is a relevant amendment from the previous version.

16.2 Abbreviations and acronyms used in the safety data sheet

Hazard statements (Section 3) : H280 = Contains gas under pressure; may explode if heated.

Control parameters (Section 8) : DNEL= 'Derived No-Effect Level'
 OEL= 'Occupational Exposure Limit'
 PNEC= 'Predicted No-Effect Concentration'

Toxicological information (Section 11): LD50= Lethal Dose

Ecological information (Section 12) : PBT = Persistent, Bio accumulative and Toxic Substances
 vPvB = very Persistent and very Bio accumulative Substances

Transport information (Section 14) : ADR = European Agreement concerning the international carriage of dangerous goods by road.

16.3 References and sources for data : Safety data sheet manufacturer
 SER limits database

16.4 Other information and disclaimer

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training. Persons related to the transportation of the dangerous goods in compliance with the ADR Agreement should be properly trained within the scope of performed tasks (general training, on-the-job training and training related to the safety issues).

All information given in this Safety Data Sheet is exclusively related to the product described and is provided assuming that the product will be used in a way and for the purposes as stated by the manufacturer. The information is based on our present state of knowledge and will be reviewed regularly. This Safety Data Sheet has only been set up with the intention to describe the safety aspects of the product and therefore should not be construed as guaranteeing specific properties of the product of concern or its suitability for a particular application. It is the user's own responsibility to take the precautionary measures described and also to take care that this information is complete and adequate for the use of this product. It is recommended to pass through the information in this Safety Data Sheet, whenever necessary in an adapted form, to all staff and interested parties of concern.

- *Changes, printing and typesetting errors reserved.*