

GAS SPECIFICATION
CO₂ – Beverage Grade - 99.9%

Form No: G-08.008
Date: 02 November 2022
Rev. C
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GAS SPECIFICATION

Material: CO₂ Grade: Beverage

Typical purity Impurity Limits:

Component	Specification	unit
CO ₂	≥ 99.9%(v/v)	%
Acetaldehyde - CH ₃ CHO	≤ 0.2 ppm(v/v)	ppm
Ammonia-NH ₃	≤ 2.5 ppm(v/v)	ppm
Acidity (1)	to pass JECFA test	ppm
Aromatic Hydrocarbon as Benzene	≤ 20 ppb(v/v)	ppm
Carbon Mono Oxide-CO	≤ 10 ppm(v/v)	ppm
Carbonyl Sulfide-COS (See note 2)	≤ 0.1 ppm(v/v)	ppm
Hydrogen Cyanide- HCN (See note 5)	Non detected	
Methanol- CH ₄ OH	≤ 10 ppm (v/v)	ppm
Nitrogen Mono Oxide-NO	≤ 2.5 ppm(v/v)	ppm
Nitrogen Dioxide-NO ₂	≤ 2.5 ppm(v/v)	ppm
Oxygen-O ₂	≤ 30 ppm(v/v)	ppm
Phosphine-PH ₃ (See note 3)	≤ 0.3 ppm(v/v)	ppm
Sulfur Dioxide-SO ₂ (See note 2)	≤ 1 ppm(v/v)	ppm
Total Sulfur Excluding SO ₂ (See note 2)	≤ 0.1 ppm(v/v)	ppm
THC as Methane (See note 4)	≤ 50 ppm(v/v)	ppm
Hydrogen Sulfide-H ₂ S (See note 2)	≤ 0.1 ppm(v/v)	ppm
NVR- Non Volatile Residue	≤ 10 ppm(w/w)	ppm
NVOR- Non Volatile Organic Residue- Oil/grease	≤ 5 ppm(w/w)	ppm


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Component	Specification	unit
H ₂ O	≤ 20 ppm(v/v) (DP ≤ Minus 55.6° C)	ppm
Odor of solid CO ₂	No foreign odor	
Odor & taste in water	No foreign odor or taste	
Appearance In water	No color or turbidity	

Notes:

- (1) Due to lack of sensitivity, this test is not required if the assay results are acceptable.
- (2) If total sulfur exceeds 0.1 ppm, hydrogen sulfide and carbonyl sulfide shall not exceed a value of 0.1 ppm each.
a sulfur dioxide test should be performed and the sulfur dioxide result shall be subtracted from the total sulfur value.
A separate 1.0 ppm(v/v) limit applies to sulfur dioxide only.
- (3) Apply only to CO₂ from phosphate rock sources.
- (4) Including 20 ppm max. of non methane hydrocarbons.
- (5) Apply only to CO₂ from coal gasification and combustion source. Current detection level is 0.5 ppm.

- Above specification applies to Carbon Dioxide for Beverages applications, per the requirements of the following standards: Israeli standard SII 388, CGA G6.2 and ISBT.
- Quality Assurance – According to company QC procedures.
- Manufacture – By a fermentation process, burning of a fuel, neutralization of hydrochloric acid by calcium carbonate, byproduct of ammonia plant and byproduct of phosphate salts plant (fertilizers).
- Packing & Distribution – As liquid in high pressure gas cylinders, refrigerated liquid in DEWARS.

Originator : Emad Bransi	Date: 02 November 2022	Signature: 
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