

## Certificate of Conformance - *Industrial Grade*Liquid Carbon Dioxide

This product conforms to the requirements of Compressed Gas
Association CGA G-6.2-2004, Commodity Specification for Carbon Dioxide,
Quality Verification Level G. The listed components are analyzed on a
batch, lot, or other routine sampling basis.

Parameter	Formula	Industrial Grade	Units
Carbon Dioxide Purity	CO <sub>2</sub>	≥ 99	% vol
Water Vapor	H <sub>2</sub> O	≤ 32	ppm vol
Total Volatile Hydrocarbons as Methane	N/A	≤ 50	ppm vol
Oxygen	O <sub>2</sub>	≤ 50	ppm vol
Total Sulfur Content as Sulfur Dioxide	S	≤ 0.5	ppm vol
Acetaldehyde	CH <sub>3</sub> CHO	≤ 0.5	ppm vol
Non Volatile Residue	N/A	≤ 10	ppm wt
Odor in Water	N/A	No foreign	None



## Certificate of Conformance - *Basic Grade*Liquid Carbon Dioxide

This product conforms to the requirements of Matheson-Trigas Basic Grade Specification for Carbon Dioxide. The listed components are analyzed on a batch, lot, or other routine sampling basis.

Parameter	Formula	Basic Grade	Units
Carbon Dioxide Purity	CO <sub>2</sub>	≥ 99	% vol
Water Vapor	H <sub>2</sub> O	≤ 120	ppm vol
Non Volatile Residue	N/A	≤ 10	ppm wt
Odor in Water	N/A	No foreign	None



## Certificate of Conformance - Food Grade Liquid Carbon Dioxide

This product conforms to the requirements of Compressed Gas Association CGA G-6.2-2004, Commodity Specification for Carbon Dioxide, Quality Verification Levels G & H. The listed components are analyzed on a batch, lot, or other routine sampling basis.

Parameter	Formula	Food Grade	Units
Carbon Dioxide Purity	CO <sub>2</sub>	≥ 99.5	% vol
Water Vapor	H <sub>2</sub> O	≤ 20	ppm vol
Total Volatile Hydrocarbons as Methane	N/A	≤ 50	ppm vol
Oxygen	$O_2$	≤ 50	ppm vol
Carbon Monoxide	CO	≤ 10	ppm vol
Total Sulfur Content (as SO <sub>2</sub> ) excluding Sulfur Dioxide	S	≤ 0.5	ppm vol
Sulfur Dioxide	SO <sub>2</sub>	≤ 5	ppm vol
Nitric Oxide	NO	≤ 5 total	ppm vol
Nitrogen Dioxide	NO <sub>2</sub>		ppm vol
Acetaldehyde	CH <sub>3</sub> CHO	≤ 0.5	ppm vol
Non Volatile Residue	N/A	≤ 10	ppm wt
Odor in Water	N/A	No foreign	None
Appearance in Water	N/A	No color or turbidity	None
Taste in Water	N/A	No foreign	None



## Certificate of Conformance - Beverage Grade Liquid Carbon Dioxide

This product conforms to the requirements of Compressed Gas
Association CGA G-6.2-2004, Commodity Specification for Carbon Dioxide,
Quality Verification Levels G, H & I. The listed components are analyzed on
a batch, lot, or other routine sampling basis.

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Parameter	Formula	Beverage Grade	Units
Carbon Dioxide Purity	CO <sub>2</sub>	≥ 99.9	% vol
Water Vapor	H <sub>2</sub> O	≤ 20	ppm vol
Total Volatile Hydrocarbons as Methane	С	≤ 20	ppm vol
Oxygen	$O_2$	≤ 30	ppm vol
Carbon Monoxide	CO	≤ 10	ppm vol
Total Sulfur Content (as SO <sub>2</sub> ) excluding Sulfur Dioxide	S	≤ 0.1	ppm vol
Sulfur Dioxide	SO <sub>2</sub>	≤ 1	ppm vol
Methanol	CH₃OH	≤ 10	ppm vol
Nitric Oxide	NO	≤ 2.5	ppm vol
Nitrogen Dioxide	NO <sub>2</sub>	≤ 2.5	ppm vol
Acetaldehyde	CH <sub>3</sub> CHO	≤ 0.2	ppm vol
Ammonia	NH <sub>3</sub>	≤ 2.5	ppm vol
Benzene	$C_6H_6$	≤ 0.02	ppm vol
Non Volatile Residue	N/A	≤ 10	ppm wt
Non Volatile Organic Residue	N/A	≤ 5	ppm wt
Odor in Water	N/A	No foreign	None
Appearance in Water	N/A	No color or turbidity	None
Taste in Water	N/A	No foreign	None