

Air-Quality Standards

High-Pressure Breathing Air: Common Allowable Limits												
Element	CGA		SANS		EN		AS/NZS		OCA ¹		Suggested best practice ⁴	
	Grade E		10019		12021		2299.1		Various			
CO	10	ppm _v	5	ppm _v	5	ppm _v	10	ppm _v	2	ppm _v	5	ppm _v
CO ₂	1000	ppm _v	500	ppm _v	500	ppm _v	480	ppm _v	1000	ppm _v	500	ppm _v
H ₂ O vapor ²	50	mg/m ³	50	mg/m ³	50	mg/m ³	50	mg/m ³	50	mg/m ³	50	mg/m ³
Oil vapor ³	5	mg/m ³	0.5	mg/m ³	0.5	mg/m ³	0.5	mg/m ³	0.1	mg/m ³	0.5	mg/m ³
Odor	None		None		NS		None		None		None	

Notes:

- 1 These standards apply to Oxygen Compatible Air (OCA).
- 2 Some standards specify a limit of 50 mg/m³ for air under 2,900 psi (200 bar), 35 mg/m³ for air over 2,900 psi (200 bar), and 25 mg/m³ for air at the compressor outlet.
Some cylinders are filled to 3,365 psi (232 bar), yet standards require adherence to the 50 mg/m³ limit.
Some standards specify no limits, and limits shown above have been extrapolated from the notes in the stated standards.
Some standards list moisture in ppm_v or dew-point temperature (DPT). In such cases, the following factors were considered:
 - The limits were converted to mg/m³ and rounded up or down as applicable.
 - To convert ppm_v to mg/m³, multiply ppm_v by 0.804.
 - The main criteria are to avoid regulators freezing up and to avoid excessive water collection in HP cylinders.
- 3 Some standards use this as the limit for oil and particles or for oil and hydrocarbons.
- 4 Suggested best practice is based on safe scuba diving practices and on current technology compressors and air filtration systems, when used within their stated maintenance and change-out intervals.

Region abbreviations:

CGA: Compressed Gas Association (USA)

SANS: South African National Standard

EN: European Norm

AS/NZS: Australia/New Zealand