

QCD Air Quality Standards

Revision Date: 1 Sept 2017
 Process Owner: Quality and Compliance Dept.

	Ambient Air	ABNT NBR 12543 1999	ANSI / ISA 57.0.01 1996	AS 2568 1991	AS/NZS 1715 2009	AS/NZS 2299 2015			BS Ministry of Defence 68-284 2002	BS EN 12021 2014	CGA G-7.1 2011						CSA Z180.1 2013	CSA Z275.2 2015	EUR-PH Rev 7 2009	IANTD / IAND 2010	NAVSEA 0910-LP-115-1921 Rev7	Norwegian Regulation 441 2004	NFPA 1989 2013	NFPA 99 2015		NOAA Rev5		OSHA 29CFR 1910.134 2006	PADI			
						Breathing Air	EAN Gas Mix	Oxygen Compatible Air			Grade A Industrial	Grade L SCBA	Grade D OSHA	Grade E SCUBA	Grade J Specialty	Grade N Med Air USP								Med Air	Oxygen Compatible Air	Gas Concentrations	Contaminants for Med Air			Nitrox I NN32	Nitrox II NN36	CGA-D
N2	Nitrogen (%)			77-79											78 - 80	78 - 80						75-81	≤ 1% O2 or ≥ 99% N							Nitrogen (%)		
O2	Oxygen (%)	20.9	19.5 - 23.5	20-22	19.5 - 22	20-22	19-21	20-22	Pass / Fail Criteria is subjective as of: Pressure Dew Point. Particle Size and Contaminants. The Lubricant content cannot be higher than 1ppm	20 - 22	19.5 - 23.5	19.5 - 23.5	19.5 - 23.5	20 - 22	19.5 - 23.5	19.5 - 23.5	20 - 22	20 - 22	20.4 - 21.4	20 - 22	20 - 22	20.5 - 21.5	19.5 - 23.5	≥ 99%	19.5 - 23.5	31 - 33	35 - 37	19.5 - 23.5	20 - 22	Oxygen (%)		
CO2	Carbon Dioxide (ppm)	340	1000	500	800	600	600	600	Please see guidance from your Dept Head in the event a customer inquires more info OR should you receive an order for testing on this Standard.	500		1000	1000	1000	0.5	500	600	600	500	1000	1000	500	1000	Other Gases as specified by +/- 1%	500	1000	1000	1000	1000	Carbon Dioxide (ppm)		
CO	Carbon Monoxide (ppm)	0.16	10	5	10	5	5	5		5		10	10	10	1	10	5	3	5	2	10	10	5		10	10	10	10	10	10	Carbon Monoxide (ppm)	
CH4	Gaseous Hydrocarbons (as Methane) (ppm)	25		25											25	0.5	10	10		25	25				25	25	25	25	25	25	25	Gaseous Hydrocarbons (as Methane) (ppm)
H2O	Water Vapor (ppm / mg/m3)		63 ppm		100 mg/m³	Report in mg/m³	Report in mg/m³	30 mg/m³		Report in mg/m³		24 ppm	67 ppm		1 ppm		27 ppm	27 ppm	67 ppm		24 ppm	30 or 50 mg/m³	24 ppm						67 ppm		Water Vapor (ppm / mg/m3)	
	Dew Point (°C / °F)		-45.6 °C	2 °C		-10 °C	-10 °C	-10 °C		-11 °C		-65 °F	-50 °F		-105 °F		-53 °C	-53 °C							35 °F		-50 °F		Dew Point (°C / °F)			
NO2	Nitrogen Dioxide (ppm)	0.02		0.50										0.1	2.5			2												Nitrogen Dioxide (ppm)		
NO	Nitric Oxide (ppm)	2													2.5			2												Nitric Oxide (ppm)		
SO2	Sulfur Dioxide (ppm)	0.02		1										0.1	5			1												Sulfur Dioxide (ppm)		
C2H2	Acetylene	0.02																												Acetylene		
N2O	Nitrous Oxide (ppm)	0.03		5										0.1										≥ 99%						Nitrous Oxide (ppm)		
	Halogenated Solvents													0.1																Halogenated Solvents		
	Volatile Non-Methane Hydrocarbons VHC (mL/m3= 1 ppm by volume)															5 ppm	5 ppm						25							Volatile Non-Methane Hydrocarbons VHC (mL/m3= 1 ppm by volume)		
	Volatile Halogenated Hydrocarbons VHHC (mL/m3= 1 ppm by volume)															5 ppm	5 ppm								2					Volatile Halogenated Hydrocarbons VHHC (mL/m3= 1 ppm by volume)		
	Oil & Particles (mg/m³)		5	1	Report	1	0.5	0.1	0.1	0.5		5	5	5	None (includes water)	1	1	0.1	5	5	1	2		1	5	5	5	5	Oil & Particles (mg/m3)			
	Odor		None	None	None	None	None	None	None	None	None	None	None	None	None	None	None		None	None	None	None				None	None	None	None	Odor		

The water content shall not exceed 50 mg/m³ for bottles filled at 200 bar (2,900.75 psi) OR 30 mg/m³ for bottles filled at 300 bar (4,351.13 psi)