Mobile Source Emissions Standards

Federal, Provincial and State vehicle emission regulations require certification of tailpipe emissions to prescribed levels. These regulations deal with two areas: new engine certification and in use certification for currently owned and licensed on-road vehicles.

High pressure precision gas mixtures, in various concentrations are supplied to original equipment manufacturers for new engine certification of internal combustion engines (ICE).

These engines are used in passenger vehicles, lawn and garden products, watercraft and recreational equipment. A wide range of pure gases and calibration standards, blended to the manufacturers exacting specifications, are supplied to this market segment.

In use testing is traditionally referred to as Inspection and Maintenance (I/M) testing. I/M automotive calibration standards are referred to as "BAR" mixtures, and are defined by the California Bureau of Automotive Repair.

BAR Certified I/M Automotive Calibration Standards

Mixture (Praxair P/N)	Carbon Dioxide	Carbon Monoxide	Propane	Nitric Oxide	Balance Gas	BAR Blend Code	Analytical Uncertainty
BAR-90 Low (MS BAR90L-D)	6.0%	1.0%	300 pm	N/A	Nitrogen	11	±2% (1)
BAR-90 Mid (MS BAR90M-D7)	12.0%	4.0%	1,200 pm	N/A	Nitrogen	12	±2% (1)
BAR-97 Low w/ NO (MS BAR97LNO-D7)	6.0%	0.5%	200 pm	300 ppm	Nitrogen	32	±1% (2)
BAR-97 Low (MS BAR97L-D7)	6.0%	0.5%	200 pm	N/A	Nitrogen	31	±1% (2)
BAR-97 High w/NO (MS BAR97 HNO-D7)	12.0%	8.0%	3,200 pm	3,000 ppm	Nitrogen	35	±1% (2)
BAR-97 High (MS BAR97 H-D7)	12.0%	8.0%	3,200 pm	N/A	Nitrogen	34	±1% (2)

BAR 97 Zero Air

Mixture (Praxair P/N)	Total Hydrocarbons	Carbon Monoxide	Carbon Dioxide	Nitric Oxide	Oxygen	Balance Gas	BAR Blend Code
BAR-97 Zero Air (MS BAR97ZA-D7)	<1 pm	<1 pm	<1 pm	<1 pm	20.9%	Nitrogen	37
BAR-97 Zero Air (MS BAR97ZA-AS)[3]	<1 pm	<1 pm	<1 pm	<1 pm	20.9%	Nitrogen	45

Notes

Listed are the most commonly used mixtures. Please contact your Praxair Sales Representative for additional Bar certified mixtures.

Mixtures with a D7 suffix in the part number are supplied in one fill, low pressure transportable cylinders (pictured at right).

[1] Labeled at the nominal (listed) concentrations

[2] Labeled at the analyzed concentrations.

[3] High pressure aluminum AS cylinder available for operational savings.