



National Accreditation Board for Testing and Calibration Laboratories (NABL)

Specific Criteria for Air Quality Monitoring Equipment Calibration Laboratories

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Terms & Definitions

Gas Mixture: In gas mixtures, each component in the gas phase can be treated separately. Each component of the mixture shares the same temperature and volume. The gases expand to fill the volume of their container; gases in a mixture do that as well. However, each gas component has its own pressure, which is called its partial pressure.

Gas Analyzer: A device for indicating the fuel-air ratio of the fuel mixture of an engine (as of an airplane) that consists of an element sensitive to carbon dioxide placed in the exhaust manifold - called also fuel-mixture indicator, smoke free.

Impactor: An inertial particle size separator. A PM_{2.5} reference of Class I equivalent method sampler uses a specially shaped inlet followed by an impactor that allows only particulate matter of well-defined size ranges to penetrate to the filter collection portion of collector.

Impactor well: That portion of the sampler inlet where particles larger than 2.5µm impact and are held by a filter soaked with oil (tetramethyl tetraphenyltrisiloxane), such that they are removed from the sample air stream.

Orifice flow rate check device: One type of flow rate calibration or check device (transfer standard), often used in the field, based on the established relationship between flow rate and pressure drop across the orifice plate. An orifice's operating characteristics are determined in the laboratory using a flow rate standard such as soap film flow meter. Orifice devices generally require temperature and pressure corrections.

PM_{2.5}: Particulate matter (suspended in the atmosphere) having an aerodynamic diameter less than equal to a nominal 2.5 micrometer as measured by a reference method on 40CFR part 50, appendix L, and designated in accordance with 40 CFR part 53.

PM_{2.5} Sampler: A Sampler used for monitoring PM_{2.5} in the atmosphere that collects a sample of particulate matter from the air based on principles of inertial separation and filtration. The sampler also maintains a constant sample flow rate and may record the actual flow rate and the total volume sampled. PM_{2.5} mass concentration is calculated as the mass of the filter catch divided by the sampled volume. A sampler cannot calculate PM_{2.5} concentration directly.

PM_{2.5} Separator: A Class of approved devices for removing particles less than 10µm in aerodynamic diameter (but greater than 2.5 µm in diameter), but allows particles of nominally less than 2.5 µm in diameter to pass and collect on Teflon Filter surface.