

The rapidly changing pace of environmental regulations worldwide, coupled with the dynamics of a highly competitive marketplace, produce an array of complex challenges for industries utilizing emissions-monitoring gases. Praxair's environmental monitoring products are designed to provide accurate, cost-effective, and safe solutions while meeting regulatory, service and delivery requirements. As a leading worldwide manufacturer of specialty mixtures, Praxair can meet all your environmental monitoring needs, including:

- Stationary Source Emissions
- Mobile Source Emissions
- Safety and Industrial Hygiene
- Ambient Monitoring

Implicit in these solutions is Praxair's strength as the largest industrial gases company in North and South America and one of the largest worldwide.

The Praxair Difference

- **Comprehensive, High Quality Product Line**
Certified pure gases and mixtures, an extensive range of gas handling equipment and systems, and a broad range of services provide you with complete environmental monitoring solutions.
- **Application-Based Solutions**
Sales, production, and research capabilities, and the ability to supply end-use customers, OEMs and research institutes with a safe, accurate, precise and legally compliant product worldwide.
- **Reliable Production And Distribution Network**
Maximum reliability throughout North America with 26 specialty gases laboratories/production centers and over 400 distribution locations.

- **Outstanding Technical Support**
A highly trained team of field sales representatives, technical service personnel and production chemists that quickly provide the guidance and support you need to resolve regulatory, technical and safety issues.
- **Global Supplier**
Application-based research and development at five international technical centers combined with specialty gases production and distribution in over 40 countries around the world.

Praxair's worldwide ISO 9001: 2000 and ISO 17025 certified facilities and Declaration of Equivalence agreements between NIST, EPA, NMI and others, ensure that Praxair's mixtures are internationally traceable and consistent.

NIST Traceable Reference Materials (NTRMs)

NIST Traceable Reference Materials (NTRM) – Certified by the National Institute of Standards and Technology (NIST) and accepted by the Environmental Protection Agency (EPA), as the highest accuracy standards commercially produced. These standards are the regulatory equivalent to NIST's Standard Reference Materials (SRMs) and are made up of the same components and are within the same analytical range.

The NIST Traceable Reference Materials (NTRM) program, was developed in a consortium with NIST, EPA, and industry participation. The program was intended to increase the availability of NIST traceable primary gas standards to industry. NTRMs supplement the supply of existing gaseous Standard Reference Materials (SRMs) and can be used wherever SRMs have been used in the past. These mixtures are similar in composition to NIST primary and SRM standards. However, because the concentration of the certified component can be bracketed by existing primary NIST standards, NTRM component concentrations can fall above, below or between existing SRM concentrations. This offers end users additional calibration reference points for greater accuracy and lower uncertainty measurements.

NTRMs are manufactured in a batch by Praxair, with NIST assigning the component concentration. The NTRM program was designed to replace the EPA's Certified Reference Material (CRM) program. EPA has stated that it accepts NTRMs in place of CRMs and allows their use as equivalent to SRMs for certification of emissions and production of mixture standards, such as EPA Protocols.

Available mixture components include:

- Carbon Dioxide
- Carbon Monoxide
- Hydrogen
- Methane
- Nitric Oxide
- Nitrogen Dioxide
- Oxygen
- Propane
- Sulfur Dioxide

Concentration ranges fall closely above, below or between existing NIST SRM concentrations.

To address any application questions you have, technical support is available from your Praxair Sales Representative or North America Technical Support Center:

1-877-PRAXAIR

EPA Protocols

EPA Protocol gas mixtures are required for the monitoring of emissions from stationary sources and are used for the calibration and audit of Continuous Emission Monitors (CEMs).

Praxair EPA Protocols are NIST traceable with a $\pm 1\%$ accuracy, produced in accordance with the latest EPA specifications. The benefits to you include:

- Certified analytical accuracy of $\pm 1\%$ NIST traceable for reliable analyzer, certification, calibration and audit.
- Multiple production facilities and stocking locations to ensure an uninterrupted supply of Protocol standards.
- Standards that are labeled and supplied with complete documentation required to ensure compliance.
- Praxair's cylinder treatment process ensures maximum allowed shelf life within the stated analytical uncertainty. (Please see page E9 for certification periods)
- Praxair maintains a complete range of NIST Standard Reference Materials (SRMs) and NIST Traceable Reference Materials (NTRMs).