Thermal Analysis for Field Sorbent Trap Mercury Testing

TECHNOLOGY

Lumex-915+ with RP-M 324 is designed for field on-site or laboratory "Direct" testing of carbon tubes for Sorbent Trap Monitoring of Hg emissions from coal fired power plants. USEPA validated thermal decomposition is referenced in appendices K part 75 of the Clean Air Mercury Rule. Atomic Absorption technology is used for no sample preparation analysis. Analysis time is less than 2 minutes per sample. No liquid chemicals, or gases required, no chemical waste is generated.
In addition to Sorbent Traps, analyzer could be used for "Direct" testing of ash, coal and "Ontario Hydro" method generated liquid samples. Mercury Speciation is available.

Multi point calibration protocol conforms to EPA Performance Based Criteria Method.
A sorbent Trap tube is cut and sorbent is transferred on to a quartz ladle. The ladle is inserted into the analyzer thermo catalytic conversion chamber heated to 800C wherein mercury is converted from a bound state to the atomic state by thermal decomposition in a two-section furnace.

This approach requires no preconcentration on gold eliminating the associated problems. The use of multipath cell combined with "dry" converter provides highest sensitivity with no interferences from the sample matrix. Mercury measurements take place in the heated cell of converter directly coupled to spectrometer. High temperature (800C) and short residence time prevents Mercury atoms form recombining with "active" species generated due to high temperature decomposition of sample matrix. External pump is used to draw ambient air and purify it for combustion. No cylinders of oxidizer or compressed gases required. No "clean" room required. Easy to use, maintain and transport.

TECHNICAL SPECIFACATIONS

1. **Detection limit: 1ng-100,000ng, mercury, or 1ug/kg-100mg/kg Hg concentration in sorbent, ash, coal, liquid "Ontario Hydro" impinger samples.**
2. **Direct analysis (results in two minutes) for "small" and "large" sorbent tubes.**
3. **Calibration: "Spike" your own tube by "direct" depositing NIST Standard on sorbent. Attachment RP 91 for "spiking" tubes with Elemental Mercury by reducing NIST Standard---is available.**
4. **Set-up or take down time: less than one hour.**
5. **Dimensions and weight: Two rolling Pelican Cases, Total 60 lb.**

48 hours turnaround testing Service is available. Please contact us at:
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