

Method 235.2: Iridium (Atomic Absorption, Furnace Technique)

METHOD #: 235.2 Approved for NPDES (Issued 1978)
TITLE: Iridium (AA, Furnace Technique)
ANALYTE: CAS # Ir Iridium 7439-88-5
INSTRUMENTATION: AA
STORET No. Total not assigned
Optimum Concentration Range: 0.1-1.5 mg/L
Detection Limit: 0.03 mg/L

1.0 Preparation of Standard Solution

1. Stock solution: Prepare as described under "direct aspiration method".
2. Prepare dilutions of the stock solution to be used as calibration standards at the time of analysis. These solutions are also to be used for "standard additions".
3. The calculation standard should be diluted to contain 0.5% (v/v) HNO₃.

2.0 Sample Preservation

- 2.1 For sample handling and preservation, see part 4.1 of the Atomic Absorption Methods section of this manual.

3.0 Sample Preparation

- 3.1 Prepare as described under "direct aspiration method". Sample solutions for analysis should contain 0.5% (v/v) HNO₃.

4.0 Instrument Parameters (General)

- 4.1 Drying Time and Temp: 30 sec-125°C.
- 4.2 Ashing Time and Temp: 30 sec-600°C.
- 4.3 Atomizing Time and Temp: 10 sec-2800°C.
- 4.4 Purge Gas Atmosphere: Argon
- 4.5 Wavelength: 264.0 nm
- 4.6 Other operating parameters should be set as specified by the particular instrument manufacturer.

5.0 Analysis Procedure

- 5.1 For the analysis procedure and the calculation, see "Furnace Procedure" part 9.3 of the Atomic Absorption Methods section of this manual.

6.0 Notes

- 6.1 The above concentration values and instrument conditions are for a Perkin-Elmer HGA- 2100, based on the use of a 20 uL injection, continuous flow purge gas and pyrolytic graphite.
- 6.2 The use of background correction is recommended.
- 6.3 Nitrogen may also be used as the purge gas.
- 6.4 The 208.9 nm line is a factor of 3X more sensitive than the 264.0 nm line, but requires a very narrow slit to be discriminated from nearby non-absorbing lines.
- 6.5 For every sample matrix analyzed, verification is necessary to determine that method of standard addition is not required (see part 5.2.1 of the Atomic Absorption Methods section of this manual).
- 6.6 If method of standard addition is required, follow the procedure given earlier in part 8.5 of the Atomic Absorption Methods section of this manual.

7.0 Precision and Accuracy

- 7.1 Precision and accuracy data are not available at this time.