

Method 267.2: Ruthenium (Atomic Absorption, Furnace Technique)

METHOD #: 267.2	Approved for NPDES (Issued 1978)
TITLE:	Ruthenium (AA, Furnace Technique)
ANALYTE:	Ru Ruthenium
INSTRUMENTATION:	AA
STORET No.	Total Not Assigned
Optimum Concentration Range:	0.1-2 mg/L
Detection Limit:	0.02 mg/L

1.0 Preparation of Standard Solution

- 1.1 Stock solution: Prepare as described under "direct aspiration method".
- 1.2 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".
- 1.3 Using distilled (1:1) HCl, the calibration standards should be diluted to contain 1% (v/v) HCl.

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 1% (v/v) HCl.

4.0 Instrument Parameters (General)

- 4.1 Drying Time and Temp: 30 sec-125°C.
- 4.2 Ashing Time and Temp: 30 sec-400°C.
- 4.3 Atomizing Time and Temp: 10 sec-2800°C.
- 4.4 Purge Gas Atmosphere: Argon
- 4.5 Wavelength: 349.9 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 μL injection, continuous flow purge gas and non-pyrolytic graphite.
- 6.2 Background correction may be required if the sample contains high dissolved solids.
- 6.3 Nitrogen may also be used as the purge gas.
- 6.4 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).
- 6.5 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.