

- 4.1 Silver hollow cathode lamp
- 4.2 Wavelength: 328.1 nm
- 4.3 Fuel: Acetylene
- 4.4 Oxidant: Air
- 4.5 Type of flame: Oxidizing

5.0 Analysis Procedure

- 5.1 For the analysis procedure and the calculation, see "Direct Aspiration", part 9.1 of the Atomic Absorption Methods section of this manual.

6.0 Notes

- 6.1 For levels of silver below 30 $\mu\text{g/L}$, either the Special Extraction Procedure, given in part 9.2 of the Atomic Absorption Methods section or the furnace procedure, Method 272.2, is recommended.
- 6.2 Silver nitrate standards are light sensitive. Dilutions of the stock should be discarded after use as concentrations below 10 mg/L are not stable over long periods of time.
- 6.3 If absorption to container walls or the formation of AgCl is suspected, make the sample basic using conc. NH_4OH and add 1 mL of (CNI) solution per 100 mL of sample. Mix the sample and allow to stand for 1 hour before proceeding with the analysis.(1)
- 6.4 The 338.2 nm wavelength may also be used. This has a relative sensitivity of 2.
- 6.5 Data to be entered into STORET must be reported as $\mu\text{g/L}$.

7.0 Precision and Accuracy

- 7.1 In a round-robin study reported by Standard Methods, a synthetic sample containing 50 $\mu\text{g Ag/L}$ was analyzed by 50 laboratories with a reported standard deviation of ± 8.8 and a relative error 10.6%.

8.0 References

- 8.1 "The Use of Cyanogen Iodide (CNI) as a Stabilizing Agent for Silver in Photographic Processing Effluent Sample", Owerbach, Daniel, Photographic Technology Division, Eastman Kodak Company, Rochester, N.Y. 14650.
- 8.2 Standard Methods for Examination of Water and Wastewater, 14th Edition, p. 148, Method 301A.