

Summary: Orthophosphate reacts with molybdenum(VI) and antimony(III) in an acid medium to form an antimony-phosphomolybdate complex. This complex is subsequently reduced with ascorbic acid to form a blue color, and the absorbance is measured at 880 nm.

Interferences: The presence of more than 50 mg/L ferric iron, more than 10 mg/L copper, or more than 10 mg/L silica may interfere. Samples with background absorbance at the analytical wavelength may interfere.

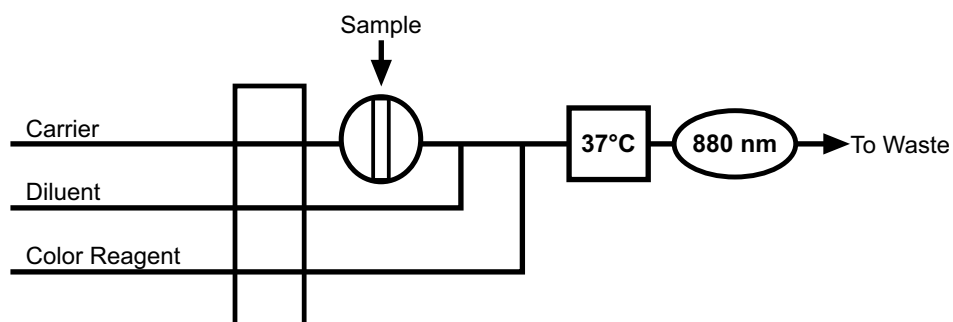
Performance Specifications:

Range:	0.01–2.0 mg/L P
Throughput:	60 samples/hour
Precision:	
0.05 mg/L	<1% RSD
Method Detection Limit (MDL):	0.001 mg/L P

Chemicals:

Ammonium Molybdate Tetrahydrate, (NH ₄) ₆ Mo ₇ O ₂₄ •4H ₂ O	Ascorbic Acid, C ₆ H ₈ O ₆ DOWFAX® 2A1 (OI Analytical Part #A000080)
Antimony Potassium Tartrate Hemihydrate, K(SbO)C ₄ H ₄ O ₆ •½H ₂ O	Potassium Phosphate Monobasic, KH ₂ PO ₄ Sulfuric Acid, concentrated, H ₂ SO ₄

Basic Flow Diagram:



Note: This method complies with USEPA Method 365.1

Selected References: *Methods for Chemical Analysis of Water and Wastewater*; EPA-600/4-79-020; U.S. Environmental Protection Agency, Office of Research and Development, Environmental Monitoring and Support Laboratory: Cincinnati, OH, 1984; Method 365.1.

Standard Methods for the Examination of Water and Wastewater, 20th ed.; American Public Health Association: Washington, D.C., 1998.

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