

Summary: Silica in solution as silicic acid or silicate reacts with a molybdate reagent in an acid medium to form β-molybdosilicic acid. This complex is reduced by ascorbic acid to form molybdenum blue. The absorbance is measured at 815 nm.

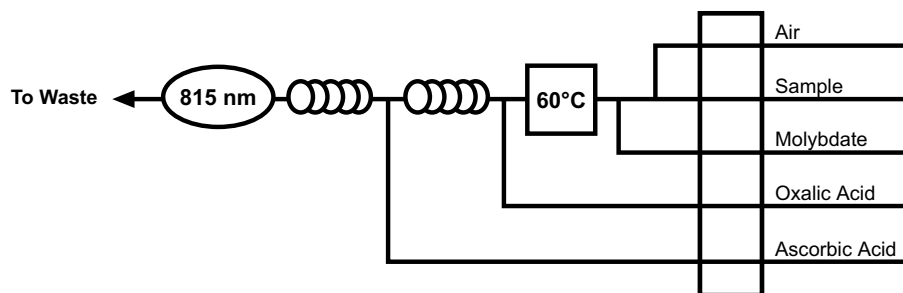
Interferences: Filter or centrifuge turbid samples prior to analysis. Add oxalic acid to suppress interference from phosphate. Remove hydrogen sulfide by boiling an acidified sample prior to determination of silica. Large amounts of iron interfere.

Performance Specifications:

Range:	0.35–35 μmoles/L Si
Throughput:	36 samples/hour
Precision:	
0.35 μmoles/L	<3% RSD
35 μmoles/L	<2% RSD
Method Detection Limit (MDL):	0.071 μmoles/L Si

Chemicals:	Ammonium Molybdate Tetrahydrate, (NH ₄) ₆ Mo ₇ O ₂₄ •4H ₂ O	Oxalic Acid, C ₂ H ₂ O ₄
	Ascorbic Acid, C ₆ H ₈ O ₆	Sodium Chloride, NaCl
	DOWFAX® 2A1	Sodium Hydroxide, NaOH
	(OI Analytical Part #A000080)	Sodium Metasilicate Pentahydrate, Na ₂ SiO ₃ •5H ₂ O
	Magnesium Sulfate Heptahydrate, MgSO ₄ •7H ₂ O	Sulfuric Acid, concentrated, H ₂ SO ₄

Basic Flow Diagram:



Selected References: *Methods for Determination of Inorganic Substances in Water and Fluvial Sediments*; I-1700-85; U.S. Geological Survey; 552–558.

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

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