USDA/ARS Methods Catalog

MethodID	OKGRL_LM365.1
Method Name	Phosphorus (all forms) by Semi-Automated Colorimetry
Media	Water
Method Type	Laboratory
Method Subcategory	Inorganic
Method Source	U.S.EPA National Exposure R
Source Citation	Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020)
Method Summary	A sample is appropriately treated to convert all phosphorus of interest to reactive orthophosphate. Ammonium molybdate and antimony potassium tartrate are added to the treated sample reacting with orthophosphate in an acidic medium to form an antimony-phospho-molybdate complex. This complex is reduced to an intensely blue-colored complex by ascorbic acid. The concentration of the orthophosphate is measured by detecting the absorbance of the complex with a spectrophotometer.
Instrument	Spectroscopy (Colorimetry; Photometry)
Detection Limit Type	IDL
DLNote	
Scope - Application	Phosphorus, All Forms (Colorimetric, Automated, Ascorbic Acid)
Concentration Range	0.01 - 1.0
Concentration Units	mg/L
Intereferences	(A) Metals and silica: Copper, iron, and silica do not interfere at the levels reported in sea water, but excessively high concentrations of iron can cause precipitation and loss of phosphorus. (B) Salt error: Salt error for 5%-20% salt samples was less
Precision Notes	(A) Metals and silica: Copper, iron, and silica do not interfere at the levels reported in sea water, but excessively high concentrations of iron can cause precipitation and loss of phosphorus. (B) Salt error: Salt error for 5%-20% salt samples was less
QA Requirements	(A) Metals and silica: Copper, iron, and silica do not interfere at the levels reported in sea water, but excessively high concentrations of iron can cause precipitation and loss of phosphorus. (B) Salt error: Salt error for 5%-20% salt samples was less
Sampling Handling	Samples should be collected in throughly clean plastic or glass bottles and should be of sufficient volume to ensure a representative sample. Samples must be preserved with H2SO4 to a pH < 2 and cooled to 4oC at the time of collection.
Max Holding Time	Samples should be collected in throughly clean plastic or glass bottles and should be of sufficient volume to ensure a representative sample.

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Sample Prep Methods	
Link To Full Method	Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100)
Method Contact	John.D.Ross@ars.usda.gov

Analytes using this Method:

Analyte: **Phosphorus** MethodID: OKGRL_LM365.1

Detection level: 0 ug/L

	Instrument	Matrix
Accuracy	0	0
Precision	0	0

False Positive Value: False Positive Value:

Accuracy/Precision Concetration Used: