



## Statement of Accuracy CHEMetrics® COD Test Kits

For COD NPDES reporting purposes, a spectrophotometer is the preferred method of measurement.  
LED photometers do not produce equivalent accuracy, precision and sensitivity.

<b>Accuracy, expressed as mg/L (ppm) at concentrations across the test range, using a Spectrophotometer</b>								
These accuracy expectations are statistically derived and are based on laboratory tests using a spectrophotometer under ideal testing conditions (COD standards of potassium hydrogen phthalate prepared in distilled water vs the median of 7 reagent blanks).								
Test Kit Range	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Allowable Result for 0 mg/L Standard	Sensitivity (concentration change per 0.01 Abs)
0-150 mg/L (LR)	10	6 - 14	50	46 - 54	125	121-129	+/- 6	3 mg/L
0-1500 mg/L (HR)	30	22.5 - 37.5	500	480 - 520	1000	960 - 1040	+/- 12	23 mg/L
0-15,000 mg/L (HR+)	300	225-375	5000	4800 - 5200	10,000	9600 - 10,400	+/- 120	230 mg/L

<b>Accuracy, expressed as mg/L (ppm) at concentrations across the test range, using an LED Photometer</b>							
These accuracy expectations are statistically derived and are based on laboratory tests using CHEMetrics LED photometers with current calibrations under ideal testing conditions.							
Test Kit Range	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Std Conc. (mg/L)	Precision / Accuracy (95% CI)	Allowable Result for 0 mg/L Standard
0-150 mg/L (LR)	30	21 - 39	50	42 - 58	125	117 - 133	+/- 7 mg/L
0-1500 mg/L (HR)	100	75 - 125	500	462 - 538	1000	960 - 1040	+/- 20 mg/L
0-15,000 mg/L (HR+)	1000	750 - 1250	5000	4620 - 5380	10,000	9600 - 10,400	+/- 200 mg/L