Methods and Reporting

The USEPA has specified regulations for Primary and Secondary Standards. National Primary Drinking Water Regulations (NPDWRs) are enforceable standards for public water systems to limit certain contaminants. National Secondary Water Regulations (NSDWRs) are non-enforceable guidelines for contaminants in public water systems that may cause cosmetic or aesthetic effects.

Parameter	Operating Range	Units	e-sens Method
pH[1,7]	5-11		Potentiometric Ion Selective Electrode[1,7]
ORP	-1000-2000	mV	Platinum Eh Electrode
Conductivity[2]	50-2500	µS/cm	4 cell platinum Electrode[2]
Total Dissolved Solids[3]	25-1250	mg/L	Calculated from Conductivity[3]
Free Chlorine[4]	0.07-5.00	mg/L	e-sens AMCD Method[4]
Monochloramine[4]	0.07-5.00	mg/L	Calculated Difference of Free and Total
Total Chlorine[4]	0.07-5.00	mg/L	e-sens AMCD Method[4]
Ammonium	0.07-5.00	mg/L	Potentiometric Ion Selective Electrode
Free Ammonia	0.07-5.00	mg/L	Calculated difference from Total and Monochloramine
Total Ammonia	0.07-5.00	mg/L	Calculated sum of all ammonia species including monochloramine
Chlorine to Ammonia Ratio	0.01-100.00		Calculation from measured parameters
Nitrification Capacity	0.07-10.0	mg/L	Calculated from measured parameters
Calcium Hardness[5]	5-1000	mg/L	Conversion from Ionic Calcium[5]
Total Hardness[5]	5-1000	mg/L	Combined Conversion from measured Calcium and Magnesium[5]
Ionic Calcium	3-400	mg/L	Potentiometric Ion Selective Electrode
Sample Temperature[6]	2.0-45.0	°C	Electronic Thermometer[6]
Dissolved Carbon Dioxide[8]	0.05-50	mg/L	Calculated from measured parameters[8]
Total Alkalinity	10-325	mg/L	Automated Potentiometric Titration
Langelier Saturation Index[7]	-10-10.00	pts	Calculated from measured parameters[7]
Ryzner Stability Index[7]	0-12.00		Calculated from measured parameters[7]
Aggressive Index[7]	7.00-15.00		Calculated from measured parameters[7]
Dissolved Inorganic Carbon[8]	1-200	mg/L	Calculated from measured parameters[8]

[1]Compliant with USEPA method 150.3 for NSDWR monitoring.

[2]Conductivity measurement and reporting follow Standard Method 2510-B with defined deviations.

[3]Total Dissolved Solids (TDS) is a secondary standard under NSDWR calculated directly from conductivity measurements.

[4]Compliant with the e-sens AMCD Method for the Determination of Residual Free and Total Chlorine in Water. Monochloramine is calculated as the difference between Total and Free Chlorine.

[5]Hardness is determined by a conversion from measured ionic calcium and magnesium measurements using calculations informed by Standard Method 2340-B.

[6]Complies with Standard Method 2550-B for laboratory and field measurements of temperature.

[7]Corrosivity is a secondary standard under NSDWR calculated from measured pH, temperature, calcium hardness, TDS, and total alkalinity.

[8]Dissolved carbon dioxide and dissolved inorganic carbon are determined from alkalinity, pH, and temperature using calculations informed by Standard Method 4500-CO_2-D.