

Interpreting Water Analysis®

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ALKALINITY

- Alkalinity is typically expressed in units of concentration of calcium carbonate (CaCO_3) or bicarbonate (HCO_3^-) equivalents.
- Units: $\text{mol}\cdot\text{L}^{-1}$, $\text{mmol}\cdot\text{L}^{-1}$, $\text{mmol}\cdot\text{L}^{-1}$, $\text{mg}\cdot\text{L}^{-1}$, or $\text{meq}\cdot\text{L}^{-1}$.
- Generally reported in $\text{mg}\cdot\text{L}^{-1}$ or $\text{meq}\cdot\text{L}^{-1}$.
- For CaCO_3 unit conversion: $1 \text{ meq}\cdot\text{L}^{-1} = 50.04 \text{ mg}\cdot\text{L}^{-1}$.
- To convert $\text{mg}\cdot\text{L}^{-1} \text{ HCO}_3^-$ to $\text{meq}\cdot\text{L}^{-1} \text{ CaCO}_3$ divide $\text{mg}\cdot\text{L}^{-1} \text{ HCO}_3^-$ by 61.
- 60–120 $\text{mg}\cdot\text{L}^{-1} \text{ CaCO}_3$ could be used as an adequate guideline.
- 180–240 $\text{mg}\cdot\text{L}^{-1} \text{ CaCO}_3$ acid injection likely required.

ELECTRICAL CONDUCTIVITY (EC)

Units: $\text{mS}\cdot\text{cm}^{-1} = \text{dS}/\text{m} = \text{mmhos}\cdot\text{cm}^{-1}$

$1 \text{ dS}\cdot\text{m}^{-1} = 10 \text{ mS}\cdot\text{m}^{-1}$

KEY TO EFFECTIVE WATER QUALITY SELF-ASSESSMENT:

- The establishment of well-planned and concise objectives for your sampling effort.
- Rinse bottles with sample water before you collect the sample.
- Use distilled water for rinsing after you complete the test.
- Perform test, or send to lab immediately after you collected the water sample.
- If not possible to test immediately, store sample at low temperature (4°C).