

Quality Control Procedure for Alkalinity

Lab Guide

Task

Check the accuracy of your alkalinity kit. Practice using the alkalinity test kit correctly.

What You Need

- [Hydrosphere Investigation Quality Control Data Sheet](#)
- Alkalinity test kit
- Alkalinity standard (A standard may be purchased or you can mix a standard following the [Making the Baking Soda Alkalinity Standard Lab Guide](#).)
- Distilled water in wash bottle
- Goggles
- Pen or pencil
- Latex gloves
- 100-mL graduated cylinder

In the Lab

1. Put on the gloves and goggles
2. Fill in the top part of the *Hydrosphere Investigation Quality Control Data Sheet*. Make sure to note the type of alkalinity standard you are using, as well as your kit's manufacturer and model number.
3. Measure the alkalinity of your standard solution following your kit's directions.
Note: Use the alkalinity standard as your water sample.
4. Record the results on the *Hydrosphere Investigation Quality Control Data Sheet*.
5. Compare your results with the value of your alkalinity standard:
 - if you using the baking soda standard, your results should be $84 \text{ mg/L} \pm 10 \text{ mg/L}$.
 - if you are using a ready-made standard, your results should be the actual alkalinity of your standard plus or minus the maximum acceptable difference for your test kit.

Maximum acceptable differences for common alkalinity test kits

Kit manufacturer	Precision
LaMotte	$\pm 8 \text{ mg/L}$
Hach	$\pm 6.8 \text{ mg/L}$ (Low Range, 0-10 mg/L)
	$\pm 17 \text{ mg/L}$ (High Range, 0-50 mg/L)

6. If your measured values are not within the expected range, try doing the procedure again using a fresh standard sample.
7. If your value is still not within range, discuss possible problems with your teacher.