

Does It Work?

Water-Testing Kits

BY ERICA SLOAN

LOCAL WATER utilities are required to test their systems for contamination and to release annual reports demonstrating water safety (usually enclosed with a summer bill). But since the 2014 crisis in Flint, MI—when water laden with lead and other harmful substances flowed freely through the city’s water supply—homeowners are turning to at-home testing kits to analyze the contents of their tap water (visit wqa.org for a list of common contaminants). The number of kits on the market is staggering, so we asked water-quality experts to distill the best options.

TEST STRIPS

THE CLAIM: Chemically treated strips or those made from materials that react to contaminants show the presence or absence of substances according to the color

the strips turn when they are submerged in water. Users consult a corresponding color chart to discover what’s in their water. **THE EVIDENCE:** Although many of these kits claim to test to Environmental Protection Agency standards, the EPA neither evaluates nor recommends them. The strips don’t indicate the exact amounts of contaminants; moreover, the tests’ accuracy is uncertain because people often judge shades of colors differently, says Lloyd Wilson, a research scientist and director of the New York Bureau of Water Supply Protection. “If you give a strip to five different people,” he says, “you might get five different results.”

THE UPSHOT: Test strips can serve as an initial screening tool, providing info on water pH and hardness, but they don’t offer a clear picture of the level of contamination. (Prices range from \$10 to \$30, on average.)

DIGITAL TESTERS

THE CLAIM: Most digital testers use an electronic probe to measure water properties that change according to the presence and quantity of different contaminants. For example, testers will track hydrogen-ion activity to determine a sample’s pH level



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or measure total dissolved solids such as calcium, magnesium, chlorides, and sulfates.

THE EVIDENCE: Results are quantified and displayed as numbers, eliminating the subjectivity of the test strips’ color chart. However, “consumers should be careful that they are actually using the tester for its intended purpose,” says Eric Yeggy, director of technical affairs at the Water Quality Association. “For example, a TDS [total dissolved solids] tester is no substitute for a lead or microbial test.”

THE UPSHOT: These types of testers reliably detect water-quality indicators that affect taste but can be less accurate on other measures, experts say. (Prices range from \$10 to several hundred

dollars, depending on what they test for.)

SEND-TO-LAB TESTS

THE CLAIM: These tests provide instructions, vials, and packaging for a consumer to mail water samples to a lab for testing. Results indicate the presence of many types of chemicals, bacteria, and parasites.

THE EVIDENCE: This approach doesn’t provide instant results. It can ensure that the sample is accurately tested,

but only if you choose a water-testing kit that uses a state-certified lab, which follows EPA-approved methods of separating, identifying, and measuring water contaminants.

THE UPSHOT: Water-quality experts agree: Send-to-lab tests are the most trustworthy. “Using a certified lab ensures that tests are done with appropriate detection limits,” says Roger Sokol, director of the division of environmental health protection at the New York State Department of Health. “This means they’ll measure harmful contaminants at the levels of concern.” Find a certified lab via epa.gov/waterlabnetwork. (Test kits cost \$25 to several hundred dollars, depending on what you’d like tested.)