

Drinking Water Test Packages

ID	Package	Description	Tests Included
WD01	Standard	Basic tests for which drinking water samples should be routinely tested	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids
WD02	Aesthetics/Corrosivity	Includes tests from standard package plus those for water components that can contribute to bad taste, staining, scaling, and corrosivity	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, plus hardness, corrosivity index, copper (running water), iron, and manganese
WD03	Aesthetics/Corrosivity Plus Lead	Includes all tests from aesthetics/corrosivity package (above) plus first-draw and running-water tests for lead and first-draw copper	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, plus hardness, corrosivity index, copper (first draw and running water), iron, manganese, first-draw and running-water lead
WD04	Agriculture/Septic	Includes tests from standard package plus nitrate-nitrogen which may be elevated in water supplies located near intensively managed agricultural sites or in proximity to densely spaced or poorly operating septic systems	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, and nitrate nitrogen
WD05	Mining	Includes tests from standard package plus those of greatest importance for water supplies located near existing or future mining activity	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, plus aluminum, iron, manganese, and sulfate
WD06*	Gas/Oil Drilling	Includes tests from standard package plus those of greatest importance for water supplies located near existing or future gas and oil well-drilling activity	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, plus barium and chloride
WD07	Trace	Includes tests from standard package plus trace elements and metals that may be present in water supplies located near industrial waste or dump sites	Total coliform bacteria, <i>E. coli</i> bacteria, pH, and total dissolved solids, plus arsenic, barium, cadmium, chromium, copper, lead, nickel, and zinc
WD08	Extensive	Includes a combination of the most tests offered by the lab for customers interested in a more comprehensive analysis of their drinking water	Total coliform bacteria, <i>E. coli</i> bacteria, pH, total dissolved solids, hardness, corrosivity, arsenic, barium, copper (first draw and running water), iron, lead (first draw and running water), manganese, sodium, chloride, sulfate, and nitrate-nitrogen

*If you are performing this test for the purpose of documenting water quality before and/or after gas-drilling activities, it is recommended that you use an accredited laboratory that can collect your sample and provide full chain of custody. For a list of labs that provide this service, go to agsci.psu.edu/aasl/water-testing/drinking-water-testing.

Individual Drinking Water Tests

Test	Importance/Sources
Aluminum	Causes metallic-tasting water; sources: some naturally occurring, but most from mining activities
Arsenic	May cause cancer and has other serious health effects; sources: naturally occurring and more rarely found in pesticides, treated lumber, or industrial-waste sites
Bacteria (total coliform and <i>E. coli</i>)	May cause gastrointestinal illnesses and water to have bad taste or odor; sources: surface water, septic systems, and animal waste
Barium	May cause hypertension and other health effects; sources: mostly from deep brines from gas/oil well drilling and may also occur from industrial activities
Chloride	Causes salty-tasting water and corrosion and blackening of steel; sources: some naturally occurring, but primarily from gas/oil well drilling brines or road salt
Copper	Causes blue-green stains; bitter, metallic-tasting water; gastrointestinal upset; and liver and kidney damage. Sources: most from corrosion of copper plumbing and more rarely from industrial-waste sites
Corrosivity	Causes metallic-tasting water, blue-green stains, and leaky pipes in homes with copper plumbing; sources: most naturally occurring, but some due to mining activities
Fluoride	May cause bone damage and discoloration of teeth; sources: naturally occurring and present in some industrial wastes
Hardness	Causes whitish-gray residue when water is heated, decreased life of water heater elements, and increased use of soap; sources: naturally occurring in many areas, especially where limestone occurs
Iron	May cause orange-brown stains and metallic-tasting water; source: naturally occurring or from mining activities
Lead	Many serious health effects and often found in association with copper; sources: primarily from metal plumbing and more rarely from industrial-waste sites
Manganese	Causes black stains and gives water a metallic taste; sources: naturally occurring or from mining activities
Nitrate Nitrogen	Causes blue-baby syndrome in infants; sources: fertilizers, animal wastes, septic systems
pH	When low, causes bitter, metallic taste and corrosion and leaks in metal pipes, and when high, causes slippery-feeling water with soda taste and leads to scale deposits; sources: naturally controlled, but may be impacted by mining activities
Sulfate	Causes bitter, medicinal-tasting water and has a laxative effect; sources: naturally occurring and from mining activities
Total Dissolved Solids	Causes cloudy and/or bad-tasting water; sources: naturally occurring, but may be caused by any land-use changes
Total Suspended Solids	Causes cloudy or muddy-looking, bad-tasting water; sources: can occur naturally after heavy rain, but most comes from land-disturbance activities such as construction and mining

Additional individual tests include alkalinity, calcium, cadmium, chromium, conductivity, magnesium, molybdenum, nickel, sodium, and zinc. Please contact the laboratory for details about these additional test parameters.

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