

Drinking water: Significance of Tests

Sometimes you face problems with your usable water. Water appear cloudy or coloured, your plumbing starts corroding faster, water has foul smell or tastes odd, your clothes washing starts giving stains or your soap does not foam much.

It is the time you must get your water checked. More importantly, when the health related problems, especially gastrointestinal illness, are visible, you need to rush your water for testing. Here are a few important tests that Polytest Laboratories offer serving all your practical purposes.

Parameter	Desirable Limit	Significance
1. Colour (Qualitative)	Colourless	Aesthetic and acceptance value. The colour is also measured in Hazen units, if more specific measurement is required.
2. Total Dissolved Solids	½1500 mg/l	High TDS contributes mineral taste to water. Also causes damage to water heaters.
3. Turbidity	5 NTU	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity is often associated with higher levels of disease-causing microorganisms. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The common cause is Soil runoffs.
4. pH	6.5 – 8.5	If not within range, affects mucous membrane. If low, it tends to dissolve metals in its contact, and if high it is also undesirable because of excessive alkalinity.
5. Total Alkalinity (as CaCO ₃)	½1200 mg/l	The alkalinity of water is a measure of its capacity to neutralize acids. Bicarbonates and carbonates are the major contributors to alkalinity, but borate, silicate, hydroxide and phosphate also contribute. Water with low alkalinity is more likely to be corrosive, which could cause deterioration of plumbing fixtures.
6. Chlorides (as Cl)	½1250 mg/l	At higher levels, the taste becomes objectionable. Adversely affects plumbing if in excess.. Chloride is suspected of being a contributor to hypertension (high blood pressure). High chloride concentrations may also be associated with the presence of sodium in drinking water.
7. Sulphates (as SO ₄)	½1200 mg/l	High concentrations of sulphate in drinking water have three effects: water containing appreciable amounts of sulphate tends to form hard scales in boilers and heat exchangers; sulphate affects taste; and high sulphate can cause laxative effects for those not used to it. The laxative effect of sulfates is usually noted in transient users of a water supply because people who are accustomed to high sulphate levels in drinking water have no adverse response. Diarrhea can be induced at sulphate levels greater than 500 mg/l but more typically near 750 mg/l. While sulphate

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		imparts a slightly milder taste to drinking water than chloride, the taste threshold may be as low as 300 mg/l.
8. Nitrates (as NO ₃)	½145 mg/l	High Nitrates cause blue-baby syndrome that reduces the oxygen absorbing capacity of Blood.
9. Total Hardness (as CaCO ₃)	½1300 mg/l	<p>Water readily dissolves calcium and magnesium from the soil and rocks. In addition to calcium and magnesium, iron and manganese also contribute to hardness.</p> <p>Hardness minerals react with soaps and detergents producing scums and deposits that make unsightly rings in the wash basin and leave deposits on clothes. Hardness also precipitates in appliances, water heaters and water pipes, which reduces their capacity and eventually contributes to their early failure. The hardness minerals may also precipitate in a glass of water.</p>