



Information You NEED to Know About Your Drinking Water

- Take the test, what do your results mean?
- Compare your results to EPA standards
- How to combat any issues you have



****The information provided in this e book was compiled from various sources on the epa.gov website (epa is the United States Environmental Protection Agency and it sets the standards for drinking water quality through the safe drinking water act). Other websites used. The sources will be listed at the end if you want to do further reading.**

This e-book will contain information about every aspect of the 9 tests, from what healthy levels should be, the issues that come with unhealthy levels and how to combat these issues to make your water healthier for you and your family. We hope you enjoy this information.

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Correct Levels (according to epa.gov)

Test	Correct range (if applicable)	Max recommended (mg/l)
Total Alkalinity	-	-
pH	6.5 to 8.5	-
Total Hardness	-	-
Iron	0 to 0.3	0.3
Copper	0 to 1	1
Lead	-	0
Nitrate	0 to 10	10
Nitrite	0 to 1	1
Free Chlorine	0.2 to 1	1

Please read on for information on every test

Total Alkalinity

Overall meaning: Measure of the capacity of water to neutralize acids.

Alkalinity in water will help keep the water's pH stabilized

Correct levels: Not applicable – In drinking water, the total alkalinity that's recommended is a controversial subject. Alkalinity is linked with pH and the EPA sets the standard to be a range of 6.5 to 8.5. This range is more on the neutral side. Alkaline water is recently being investigated as the healthier alternative to the normal neutral water as it helps make our bodies less acidic. This has led to some test subjects showing lowered cholesterol and blood pressure after switching from neutral tap water to alkaline water for an extended period of time. There are also some big claims like it strengthens your bodies systems making them more efficient. There are however dangers to having high total alkalinity levels in your drinking water and these positive effects have not been fully validated.

Dangers in water: One of the dangers of water being too alkaline is that it affects your body's natural pH level. According to some, if you disturb your pH level, our body's cells will not be able to perform their normal chemical reactions as they require a certain amount of acidity and alkaline balance. Alkaline water is also not good for people with kidney issues as it is essentially the kidneys job to maintain pH levels so they will be working very hard unnecessarily and will eventually lead to problems. If your drinking water is alkaline you also make your stomach acid less acidic which can lead to vitamin absorption problems.

How to fix and maintain any issues: Generally speaking there isn't much you could or should do about total alkalinity in your water as it varies by state. Unless you are actively trying to make your water alkaline there shouldn't be any major issues health wise. As long as your water falls between 6.5 and 8.55 you should be good. See pH section for more.

pH

Overall meaning: pH is the scale of whether the water is acidic (1-6), neutral (7) or alkaline (8-14). The pH of water varies depending on your location (source of the drinking water) as it passes through different rock.

Dangers in water: In drinking water, if the pH is too high (or alkaline) you get the problems mentioned in the section above. However if the water is too acidic it could have metal traces in such as lead, iron and copper which is very bad for you, which we discuss later on in this guide. Acidic water can also be corrosive to pipes and bring property damage long term.

Correct levels: 6.5 to 8.5

How to fix and maintain any issues: Once again, you shouldn't have any issues with the pH of your water but if you do, to make your water supply more neutral you can add a water filtration system to your home. These filters work by making the water pass through a neutralizing substance.

Total Hardness

Overall meaning – Hard water is water that is high in mineral content, due to the water source passing through certain environments.

Dangers in water – In drinking water, the total hardness could cause an unpleasant taste and can also damage the pipes that it runs through to get to your tap. The hardness is however dependant on the area that you are from.

Correct levels – Not applicable, although for drinking water a lot of people prefer harder water because it contains essential minerals which do count towards your daily recommendations.

How to fix and maintain – To soften water there are a couple of things you can do. To get rid of temporary hardness you can boil the water. For a permanent solution you can buy a water softening system. A simple water jug filter also usually contains an ion exchange resin which softens water, however generally for drinking water you shouldn't try and change this as it doesn't make too much of a difference to drink.

Iron

Overall meaning – Iron is a chemical element represented by the symbol Fe. It is a dietary requirement but very high levels in water can bring problems.

Dangers in water – In drinking water, when iron is present it can cause water to taste metallic and become discolored. The EPA cautions that although iron is safe to ingest, the iron sediments may harbour harmful bacteria.

Correct levels – 0 to 0.3 mg/l

How to fix and maintain – If you have any iron in your water you can either buy a reverse osmosis water filtration system or a mechanical water softener to combat this issue.

Copper

Overall meaning – Copper is also a chemical element, represented by the symbol Cu. It is a widely used metal in the modern world.

Dangers in water – In drinking water, copper has been linked with liver damage and kidney disease. Children are more vulnerable to the effects as they have not properly developed the body's natural mechanism for copper control. A lot of copper in water can also lead to vomiting, diarrhoea and nausea.

Correct levels – 0 to 1 mg/l

How to fix and maintain - If you have more than 1 mg/l of copper in your drinking water, you should always let water run on cold for 30-60 seconds when supply hasn't been used for more than 6 hours as you will essentially flush most of the copper contaminated water. You can also buy a reverse osmosis filter to deal with itf.

Lead

Overall meaning – Lead is an element represented by the symbol Pb. It is a metal which, when in water, can cause major health problems for people.

Dangers in water – In children lead has been tied to side effects such as lower IQ, hyperactivity and slowed growth, in pregnant women it can cause premature birth and in adults it is linked to reproductive problems, decreased kidney function and cardiovascular effects such as increased blood pressure.

Correct levels - 0

How to fix and maintain – Boiling water will not get rid of lead contamination. You will need to buy a water filter that is designed for lead reduction or flushing your pipes before drinking often to not drink static water which has increased chance of lead exposure due to staying in pipes for extended periods of time.

Free Chlorine

Overall meaning – Chlorine is a chemical element that is often used in water to kill bacteria. It is represented by the symbol Cl.

Dangers in water – In drinking water, a little bit of free chlorine is preferred as it kills certain bacteria. However if you have more than 1 mg/l then chlorine can increase your risk of cancer (93%) and can cause long term lung problems.

Correct levels – 0.2 to 1 mg/l

How to fix and maintain – If you have too much chlorine in your drinking water the simplest fix is to buy a jug filter and filter your tap water through this jug. Another method is to boil your water for 20 minutes then allow to cool.

Nitrate

Overall meaning – Nitrate (NO_3) is a colorless, odourless and tasteless molecule made up of nitrogen and oxygen. It is essential for all living things but high levels in drinking water can be dangerous to health, especially pregnant women and infants.

Dangers in water – In drinking water, nitrate and nitrite can cause developmental issues in infants such as blue baby syndrome.

Correct levels – 0 to 10 mg/l

How to fix and maintain – Using a treatment process called ion exchange will get rid of 97-99% of nitrate and nitrite in water. The same can be said for reverse osmosis water filtration systems.

Nitrite

Overall meaning – Nitrate (NO_2) is a colorless, odourless and tasteless molecule made up of nitrogen and oxygen. It is essential for all living things but high levels in drinking water can be dangerous to health, especially pregnant women and infants. Nitrite is more reactive than Nitrate.

Dangers in water – In drinking water, nitrate and nitrite can cause developmental issues in infants such as blue baby syndrome.

Correct levels – 0 to 1 mg/l

How to fix and maintain - Using a treatment process called ion exchange will get rid of 97-99% of nitrate and nitrite in water. The same can be said for reverse osmosis water filtration systems.

Sources:

*We compiled this information as an overview of some of the meanings, dangers and solutions for the 9 tests to help you know more about your water. We gathered the info from various sources from the internet which we will link down below. If you want to know more please do more research. Thank you so much for reading, we hope you found this information helpful and if you would like to contact us for any reason regarding this e book or the test strips we provided, please email us: support@jnwdirect.com.

Links:

epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants

epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals

epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

[Brita.com/why-brita/what-we-filter](https://brita.com/why-brita/what-we-filter)

Health.state.mn.us/divs/eh/water/factsheet/com/copper.html

Livestrong.com/article/498701-what-are-the-benefits-of-drinking-alkaline-water

Livestrong.com/article/408517-can-too-much-iron-in-your-water-make-you-sick

Cdc.gov/healthywater/drinking/private/wells/disease/nitrate.html

Who.int/water_sanitation_health/dwq/chemicals/nitratenitrite2nadd.pdf

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