

KYK Water Filter Report

Learn all about the different water contaminants and read a filtration report for the KYK water filter.



Explanation of Common Water Properties and Contaminants:

Information provided by Silver Lake Research.

Test your water at watersafetestkits.com.

Alkalinity	Alkalinity in drinking water is due to the presence of sodium, calcium, and magnesium carbonates. Most natural drinking water has alkalinity around 10pH.
Aluminum	The fourth most common element on the Earth's crust, aluminum is naturally present in drinking water and is added as a chlorination preparation a water utilities. Most of what is added is removed but a residue may be present in municipal water sources. Aluminum may cause discoloration of water. Aluminum in low doses isn't thought to be harmful but in high doses it may cause respiratory and skeletal problems. Learn more about aluminum .
Aresenic	Can result from both natural process and industrial activities including smelting operations, use of certain pesticides, and industrial waste disposal. Arsenic compounds have been shown to have acute and chronic effects which include systemic irreversable damage. It is also listed as a carcinogen. Learn more about arsenic .
Barium	Barium is a naturally occuring metal found in many types of rocks. In stream water and ground water, only traces of the element are present. It is also used in oil and gas drilling muds, automotive paints, bricks, tiles, and jet fuels. Exposure has been associated with hypertension and toxicity in animals. Learn more about barium .
Cadmium	Cadmium is found in a very low concentration in rocks, as well as in coal and petroleum and often in combination with zinc. It is introduced to the environment from mining and smelting operations. Other cadmium emissions are from fossil fuel use. fertilizer

	<p>application, sewage sludge disposal or galvanized pipe corrosion. Acute and chronic exposure to cadmium may cause hypertension, anemia and kidney problems. Learn more about cadmium.</p>
Calcium	<p>Calcium exists in soil and rocks such as limestone, dolomite, and gypsum. Drinking water contributes only a small amount of the required daily intake. Concentrations as great as 1800mg/L of calcium in water are reported harmless. It can be a nuisance as it contributes to hardness of the water and build up on pipes or water heaters (or water ionizers) may inhibit their performance. Low levels can be helpful as it tends to form a coating on pipes which may prevent corrosion.</p>
Chloride	<p>Chloride in water can be a residual of chlorine and has been attributed to use of salt to de-ice roads. Other sources of chloride in ground water may be related to sea water trapped in sediments. High levels can contribute to corrosivity of plumbing and may be accompanied by high levels of sodium which may be a health concern.</p>
Chromium	<p>Chromium is a naturally occurring metal. It is often used in electroplating of metals. Although chromium is not currently mined in the US, waste from old mining operations may enter surface and ground water through runoff and leaching. Exposure at high levels has been shown to result in chronic toxic effects such as dermatitis, ulceration of skin or liver, and kidney damage in animals and humans by ingestion. Learn more about chromium.</p>
Copper	<p>Water can be a significant source of copper intake depending on the geographical location, water character, water temperature, and the presence of copper pipes. At concentrations above 1mg/L, copper can stain laundry and plumbing fixtures. Copper can also cause a greenish/blue tint to blonde hair. Copper is an essential element at lower levels but at levels above 5mg/L can cause gastrointestinal disturbances or other acute toxic effects. Learn more about copper.</p>
Fluoride	<p>Fluoride is naturally occurring and may be added to municipal water systems. At an optimum level of 1 mg/L, it has been shown to be effective in reducing dental cavities. Levels over 2mg/L may cause mottling of teeth in normal individuals living in a temperate climate. Federal law requires a community water supply to notify users when fluoride exceeds 2 mg/L. The current allowable level is 4 mg/L. Learn more about fluoride.</p>
Hardness	<p>Hardness is usually caused by the presence of calcium and magnesium in water. They can combine with soap to form scum on water and ring around the tub. You may find larger amounts of soap are required to form washing suds.</p>
Iron	<p>Iron in drinking water is a very common problem. It occurs naturally</p>

	<p>from rock or can be introduced by plumbing materials. When iron comes in contact with oxygen, it changes to a reddish compound that can discolor bathroom fixtures and laundry. At this time, there are no known health effects from drinking elevated iron in water.</p>
Lead	<p>The main source of lead in drinking water is leaching from lead piping and lead solders. Lead enters primarily in areas have soft, acidic waters. When elevated lead levels are found, consult a physician. Children and fetuses are especially sensitive to lead poisoning. Learn more about lead.</p>
Magnesium	<p>Magnesium is commonly found in rocks such as granite, limestone, sandstone, and dolomites. High levels can be a nuisance contributing to the hardness of the water and inhibiting performance of pipes and water heaters.</p>
Manganese	<p>Manganese in water is a common, naturally occurring problem but can also be introduced by industry. It can produce a brownish discoloration and have a very unpleasant odor and taste. It may produce black deposits and black filaments. Chlorine bleach should not be used in laundry washed in water with a high iron or manganese content because it can cause stains to set. Currently known cases of manganese poisoning have occurred at elevated levels much higher than the levels found in naturally occurring water. Learn more about manganese.</p>
Mercury	<p>Mercury is one of the least abundant elements in the earth's crust. It usually gets into water as a result of improper waste disposal. Exposure at high levels may result in kidney disease or central nervous system problems. Learn more about Mercury.</p>
Nickel	<p>Nickel is not commonly found in nature as a pure metal. Nickel is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining operations. The absorption of dietary nickel from the gastrointestinal tract appears to be quite low, with the majority of nickel passed through the body. Learn more about nickel.</p>
Nitrate and Nitrite	<p>Nitrates occur naturally; however, the major sources of nitrates or nitrites in drinking water include fertilizer, sewage, and feedlots. The toxicity of nitrate in humans is due to the body's reduction of nitrate and nitrite. These contaminants can cause methemoglobinemia (blue baby syndrome). Therefore, notifying your baby's pediatrician of these levels is advisable.</p>
pH	<p>pH is a measure of the hydrogen ion content of water. Values below 7 are considered acidic. Above 7 are considered alkaline. A pH difference of one actually represents a tenfold difference in acidic or alkaline content. Acidic water dissolves metals readily and can be corrosive to plumbing which can increase the amount of toxic metals</p>

	leaching into the water.
Pesticides, Herbicides, PCBs	Surface water leaching and runoff is usually responsible for these being in ground water. Pesticides are used to control insects or other pests. Certain pesticides have been banned but may still be found in the environment. Some herbicides may be used to control algal blooms in reservoirs and general weed control. PCBs were once widely used in electrical transformers and industrial equipment. There may be a range of health effects related to the nervous, respiratory, or reproductive systems, as well as the heart, liver or kidneys. Also, some PCBs are probably carcinogens. Learn more about PCBs .
Selenium	Selenium is found naturally in foods and soil. It is used in electronics, photocopy operations, glass manufacturing, chemicals, drugs, and as a fungicide and feed additive. It can cause dermatitis or affect the nervous system. Learn more about selenium .
Silver	Silver is a relatively rare metal originating from natural sources and from industrial waste. The only adverse effect resulting from chronic exposure to low levels of silver in animals and humans is blue-gray discoloration of the skin and internal organs. Learn more about silver .
Sodium	Comes from geological sources, road salt or as a result of using a water softener. A guidance level of 20mg/L in drinking water is suggested by the EPA for the high risk population of hypertensive and heart patients. If your sodium intake is being monitored, consult a physician for advice.
Sulfate	Sulfate is found in almost all natural water. It may enter through waste discharges and may indicate septic leaching into the water supply. Sulfate presence can cause a pungent odor and taste in drinking water and may have a laxative effect.
Total Dissolved Solids	TDS values are a measure of the amount of solids dissolved in your water. If you left a small amount of coffee in a cup for a few days, the water would evaporate and the dissolved solids would stay behind.
Trihalomethanes	Usually formed as a by-product of the reaction of chlorine with organic matter. The most common THM, chloroform was one of the earliest anesthetics, but it is no longer used because of its toxic side effects. It is used widely as a solvent in industry. This group of compounds can affect the nervous system and muscles and may also be carcinogenic. Learn more .
Turbidity	Turbidity in water is caused by suspended matter, such as clay, silt, fine particles of organic and inorganic matter, and microscopic organisms.
Volatiles Organic	This group readily evaporates into the air at very low temperatures.

Chemicals	Gasoline contains VOCs. If you have ever pumped gas and spilled it, it disappears very quickly into the air and has a noticeable odor. VOCs can exist in water and a small increase in temperature will release them into the air, like taking a shower. Most are classified carcinogenic. Learn more about VOCs .
Zinc	Zinc is considered an essential element in human and animal nutrition. It may come from industrial contamination or corrosion of plumbing. In concentrations over 5mg/L, zinc produces objectionable taste and may cause water to appear milky with a greasy surface scum. Zinc poisoning occurs in prolonged consumption of 40 mg/L in greater.

KYK Filtration Results

by National Testing Laboratories, LTD.

Results from a filtered municipal water sample from Gaithersburg, MD, 3/15/06

Analysis Performed	MCL (mg/L) Maximum Contaminant Level	Detection Level	Level Detected
Aluminum	0.2	0.1	ND (not-detected)
Arsenic	0.010	0.005	ND
Barium	2	0.30	ND
Cadmium	0.005	0.002	ND
Calcium	---	2.0	38
Chromium	0.1	0.010	ND
Copper	1.3	0.004	ND
Iron	0.3	0.020	ND
Lead	0.015	0.002	ND
Magnesium	---	0.10	8.4
Manganese	0.002	0.001	ND
Mercury	---	0.001	ND
Nickel	---	0.02	0.005
Selenium	---	1	ND
Silver	0.1	0.002	0.005
Sodium	---	1	16

Zinc	5	0.004	0.013
Chloride	250	5.0	32
Flouride	4	0.5	0.8
Hardness (suggested limit = 100)		10	130
Nitrate	10	0.5	11
Nitrite	1	0.5	ND
Sulfate	250	5.0	28
TDS	500	20	160
Turbidity	1.0	0.1	ND
Organic Chemicals -- Trihalomethanes (all)			ND

Analysis:

The KYK Harmony filter was effective in removing all the bacteria from the water. It kept a reasonable amount of minerals like selenium, calcium, and magnesium in the water so the water can be ionized. It also removed all the toxic metals.

This water sample had marginally hard water. Users of the KYK Harmony in this area may consider using a hard water prefilter. Also, like all other carbon activated filters, the KYK Harmony filter was only marginally effective in the removal of flouride, chloride, and nitrates. If you have high levels of any of these, you should consider getting their respective prefilters. Also, high levels of heavy metals would require a heavy metal pre-filter.