



## Health Problems and Chemicals to Watch for

The following chemicals have been found to exceed drinking water standards in coal slurry<sup>i</sup> and/or in homes near coal slurry storage<sup>ii</sup>. This is NOT a complete list of the chemicals found in coal or of the chemicals used to wash coal, all of which may impact ground water and your drinking water. This is also NOT a complete list of possible health problems associated with drinking water contamination.



If you are concerned about specific chemicals, request for the lab to test for them. The EPA recommends that people using household wells near a “coal or other mining operation” should test for “Metals, pH, and corrosion.”<sup>iii</sup>

You can be exposed to chemicals in bad water by breathing them in from steam in a shower, absorbing them through your skin, and drinking them. Inform your doctor if you are on well water near a mine.

Some health effects occur after receiving low doses over a long period of time. If you think your water might be contaminated, have it tested now, and have it tested regularly, in order to document your exposure. Keep a home record of any health problems and any noticeable problems with the water.

Chemical	Possible Health Effects**	EPA Drinking Water Standard (mg/L)
Aluminum	Irritation of skin, eyes, nose and upper respiratory tract. Loss of feeling in limbs, drop in blood pressure, damage to liver, kidneys, and lungs. Inflammation of the gastrointestinal tract. Skin or tooth discoloration.*	Secondary <sup>iv</sup> 0.05 to .20
Arsenic	Cancer (liver, bladder, lung, kidney, and skin). Skin Damage, problems with circulatory systems, increased risk of cancer.*	0.01
Barium	Respiratory paralysis, muscle twitching or paralysis, may effect pacemaker or the heart muscle. Increase in Blood Pressure.*	2.0
Beryllium	Lung tumors and lesions, weight loss. Intestinal lesions.*	0.004
Cadmium	Causes cancer, anemia, discoloration of teeth, & bone changes. Kidney Damage.*	0.005
Chromium	Irritation to nasal cavity and upper respiratory tract, some compounds may cause cancer. Skin problems.*	0.1
Copper	Irritation of upper respiratory tract, corneal ulcers and skin irritation, green hair. Short term: Gastrointestinal distress. Long term exposure: liver or kidney damage.*	1.3



Iron	Decreased blood pressure, bloody diarrhea or coma, vomiting, mild lethargy.	Secondary 0.3
Lead	May cause cancer. Lethargy, autoimmunity, problems with joints, kidneys, and nervous system. Infertility and birth defects Children: delays in physical or mental development, deficits in attention span and learning ability Adults: Kidney problems, high blood pressure.*	0.015
Manganese	Loss of controlled movement; weakness, stiff muscles, and trembling hands, hallucinations, forgetfulness and nerve damage, Parkinson, lung embolism and bronchitis.	0.05
Selenium	Hair loss, deformed nails; rashes and redness in skin; numbness in arms or legs. Fingernail loss; numb fingers or toes, circulatory problems*	0.05
Sodium	Could interfere with blood pressure medication	Tertiary
Sulfuric Acid Acid Mine Drainage	Corrosive and irritating to skin, eyes, and respiratory and gastrointestinal tracts	Secondary: 250
Zinc	Stomach cramps, nausea, vomiting, anemia, damage to the pancreas, and decreased levels of high-density lipoprotein (HDL) cholesterol.	Secondary 5

\*\*Health information in this column is from: Hazardous Substances Databank of the National Library of Medicine online at <http://toxnet.nlm.nih.gov/cgi-bin/sis/search>, Unless otherwise noted by (\*).

\*Health information from: United States Environmental Protection Agency. Office of Water. June 2003. Poster: *National Primary Drinking Water Standards*

### One test may not pick up contaminants.

Some contaminants may only be washed into your aquifer during heavy rain, or the contaminants may not be evenly dissolved in the water. **Consider testing more than once.**

### Chemicals may accumulate in hot water heaters.

If possible, have the bottom of your hot water tested for the above chemicals. Chemicals present in your water may accumulate and, therefore be more easily detected in the heated environment.

#### If you suspect water contamination

- Do not boil water from your spigot - this does not take care of heavy metals.
- Have water tested as soon as possible *See Section 4 of "10 steps to take"*
- Do not use water to cook
- Do not use water to brush your teeth
- Keep a log of all health problems and water problems

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ii Stout, Ben III PhD. December 2004. Well Water Quality in the vicinity of a Coal Slurry Impoundment Near Williamson, West Virginia. Wheeling Jesuit University. 26p.

iii US EPA. January 2002. Drinking Water from Household Wells, (Pamphlet.) EPA 816-K-02-003. Page 11 of 19.



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Secondary and Tertiary drinking water standards are not enforceable under federal EPA. For tertiary standards, the known effects are limited or occur over a long period of time (lifetime advisory); therefore, the federal government does not state quantifiable limits of intake.

