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WHAT ARE THE CONCERNS ABOUT VOC'S IN YOUR WELL?

Volatile Organic Chemicals (VOC's) are known as carbon-containing compounds that evaporate quickly from water and into the air. The clue here is that a distinctive odor of gasoline and solvents are often the detecting truth and should set off alarms in ones head.

VOC's are a group of highly-utilized chemicals that have widespread applications, including use as fuel components, as solvents, and as cleaning and liquefying agents in degreasers, polishes, and dry cleaning solutions. VOC's are also used in herbicides and insecticides for agriculture applications.

VOC's are commonly found contained in a wide variety of commercial, industrial and residential products. Most commonly at the top of the list is fuel oil, gasoline, solvents, cleaners, and degreasers. However, paints, inks, dyes, refrigerants and pesticides are also classified in this group as well.

Sadly it is our human activity that creates VOC's within our environment. When VOC's are carelessly spilled or improperly disposed of, a portion evaporates, and the remainder soaks into the ground. In soil, VOC's are carried deeper by rain water or snow melt and eventually reach the ground water table.

Another equation to VOC's found in wells, would be larger isolated spills or the dumping of VOC's causing seepage into the ground and penetrating water sources. Other common conditions are large Chemical or Industrial spills which can later spread farther down water supply systems. A factor to the contamination of VOC's in a well is location. Wells that are located near industrial or commercial areas, gas stations, landfills and railroad tracks, increase the likelihood of VOC's being detected in wells.

The question then arises, are there health risks in VOC's? The consensus varies considerably as to their toxic or harmful effects. So what are the health effects of VOC's? Are the risks exclusive just to animals and humans? Does the environment become a factor? Can long or large exposure to chemicals affect the workplace? And can VOC's affect surrounding well, ground, or surface waters? The resounding answer is...YES! When VOC's are exposed to the ground, industrial or chemical plants and water systems it can then become a chain reaction.



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For someone exposed to high levels of VOC's that exceeded HRLs (Health Risk Limits) the more common health issues affecting humans and animals could be, harm to the central nervous system, kidney and liver functions. VOC's can further cause skin irritation when in contact with the skin and irritate mucous membranes if inhaled. Some VOC's are known or suspected carcinogens (or cancer causers).

So what is the answer? Some VOC's do not cause cancer and with conservative testing methods you can establish the HRL that is considered safe even if your water is used everyday for drinking, cooking, bathing and laundry.

When testing VOC's in drinking water, if one or more of the HRLs is above the established levels, alternative solutions should be considered on whether your water supply is safe to drink.

Water containing chemicals at levels lower than the HRLs is considered safe to drink. However, some might want to consider not drinking their water and investigate alternative options for treatment.

Reference:

Legislation passed in 2007, Chapter 147, Article 17, section 2 establishing new Health Risk Limit (HRL) values, effective July 1, 2007, for chemicals determined by the United States Environmental Protection Agency (US EPA)