Hydraulic Fracturing and Your Health

Hydraulic fracturing (fracking) creates greater access to natural gas supplies, but the process requires the use of large quantities of water and fracturing fluids, which are injected underground at high volumes and pressure. The average amount of water used is about 5 million gallons per fracture. Gas companies design fracturing fluids to create "fractures" or breaks that release the gas held in shale formations and to transport granular substances to prop open the fractures. The composition of these fluids varies, ranging from a simple mixture of water and sand to more complex mixtures with a multitude of chemical additives. Some of these chemicals can have serious health effects if released into water or air. However, the 2005 Energy Policy Act exempted hydraulic fracturing from regulation under the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act.

An April 2011 report "Chemicals Used in Hydraulic Fracturing," commissioned by the United States House of Representatives Committee on Energy and Commerce, revealed the following information about chemicals used by fourteen oil and gas companies from 2005-2009.

- Companies used 780 million gallons of fracturing products, **NOT including the water they were mixed with.**
- 29 of these chemicals are 1) known or possible carcinogens, 2) regulated under the Safe Drinking Water Act for risks to human health, 3) listed as hazardous air pollutants under the Clean Air Act.
- These 29 chemicals were used in more than 650 fracking products
- BTEX (benzene, toluene, xylene, ethylbenzene) appeared in 60 products. Companies injected 11.4 million gallons of these chemicals over the five-year period. **Exposure to these chemicals can cause central nervous system, liver, and kidney damage.**
- Companies injected 11.7 million gallons of product containing at least one chemical regulated under the Safe Drinking Water Act (mostly BTEX).
- 2-BE (2 butoxy ethanol) was used in 126 fracking products. According to the EPA, 2-BE is easily absorbed, and rapidly distributed in humans following inhalation, ingestion, or skin exposure. **It can cause destruction of red blood cells (hemolysis), and damage to the liver, spleen, and bone marrow.**
- Companies injected 21.9 million gallons of 2-BE from 2005-2009. **A total of 464,231 gallons were injected in West Virginia.**
- Companies used 95 products containing 13 different carcinogens, and injected 10.2 million gallons containing at least one carcinogen.
- The Clean Air Act requires EPA to control emissions of 187 hazardous air pollutants. **Gas companies used 595 products containing 24 known hazardous air pollutants.**
- Hydrogen fluoride is a highly corrosive and systemic poison that can cause severe health problems and death. Companies used 67,222 gallons of this product in 2008-2009.
- Companies used 93.6 million gallons of fracking products that contained at least one "proprietary component." This means they were bought "off the shelf" and **the companies themselves could not identify all the chemicals in the product.**

For more information on gas drilling, see the Ohio Valley Environmental Coalition website www.ohvec.org