

Potentially harmful chemicals being used to drill for natural gas in Pennsylvania

Marc Levy, Associated Press, 6-28-10

HARRISBURG, PA. — More than two years after the start of a natural gas drilling boom, Pennsylvania is making public a complete list of the chemicals used to extract the gas from deep underground amid rising public fears of potential water contamination and increased scrutiny of the fast-growing industry.

Compounds associated with neurological problems, cancer and other serious health effects are among the chemicals being used to drill the wells, although state and industry officials say there is no evidence that the activity is polluting drinking water.

The Associated Press obtained the list from the state Department of Environmental Protection, which assembled what is believed to be the first complete catalog of chemicals being used to drill in Pennsylvania's gas-rich Marcellus Shale. The department hopes to post it online soon.

It counts more than 80 chemicals being used by the industry in a process called hydraulic fracturing, or "fracking," as it pursues the gas in the mile-deep shale.

Many of the compounds are present in consumer products, such as salt, cosmetics, gasoline, pesticides, solvents, glues, paints and tobacco smoke.

Environmental advocates worry the chemicals are poisoning underground drinking water sources. However, environmental officials say they know of no examples in Pennsylvania or elsewhere.

"If we thought there was any frack fluid getting into fresh drinking water ... I think we'd have to have a very serious conversation about prohibiting the activity completely," said Scott Perry, the director of the department's Bureau of Oil and Gas Management.

Conrad Volz, who directs the University of Pittsburgh's Department of Environmental and Occupational Health, said state and federal agencies haven't done enough research to come to that conclusion.

A decades-old technology, hydraulic fracturing was coming under increased scrutiny even before the Gulf of Mexico oil spill.

Its spread from states such as Texas, Colorado and Wyoming to heavily populated watersheds on the East Coast has led to worries about water contamination and calls for federal regulation.

Hydraulic fracturing is exempt from the federal Safe Drinking Water Act, leaving states to regulate the activity. In New York state, regulators have effectively held up drilling on the Marcellus Shale while they consider new regulations. Last year, they published a list of more than 250 chemicals that could potentially be used there.

In Pennsylvania, where approximately 1,500 Marcellus Shale wells have been drilled and many thousands more are expected in the coming years, the state is working to buttress its regulations even as rigs poke holes in large swaths of the state.

Last week, HBO aired a documentary called "Gasland" that portrayed the natural gas industry as an environmental menace that spoils water, air and lives. The industry has challenged the film's veracity, saying it botches facts, exaggerates evidence and spotlights citizens whose claims already have been investigated and debunked.

Pennsylvania assembled the list in recent months from information the industry is required to disclose and decided to prepare it for the public as public interest grew, Perry said.

Industry officials say the chemicals pose no threat because they are handled safely and are heavily diluted when they are injected under heavy pressure with water and sand into a well. Industry officials say the chemicals account for less than 1 percent of the fluid that is blasted underground.

The mixture breaks up the shale some 5,000 to 8,000 feet down and props open the cracks to allow the gas trapped inside to flow up the well to the surface.

One compound, naphthalene, is classified by the federal Environmental Protection Agency as a possible human carcinogen.

The EPA said central nervous system depression has been reported in people who get high levels of toluene by deliberately inhaling paint or glue.

In its online guidelines on xylene, the U.S. Occupational Safety and Health Administration cites an industrial hygiene and toxicology text that says chronic exposure to xylene may cause central nervous system depression, anemia, liver damage and more.

The chemicals are used to reduce friction, kill algae and break down mineral deposits in the well. Various well services firms make different proprietary blends of the solutions and supply them to the drilling companies, which blend them with water at the well site before pumping them underground.

In recent years, some makers of the solutions have sought to replace toxic ingredients with "green" or food-based additives. For instance, Range Resources Corp., one of the most active drilling companies in Pennsylvania, is close to rolling out a 100 percent biodegradable friction reducer, spokesman Matt Pitzarella said Monday.