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Chemicals Were Injected Into Wells, Report Says

By **IAN URBINA**

WASHINGTON — Oil and gas companies injected hundreds of millions of gallons of hazardous or carcinogenic chemicals into wells in more than 13 states from 2005 to 2009, according to an investigation by Congressional Democrats.

The chemicals were used by companies during a drilling process known as hydraulic fracturing, or hydrofracking, which involves the high-pressure injection of a mixture of water, sand and chemical additives into rock formations deep underground. The process, which is being used to tap into large reserves of [natural gas](#) around the country, opens fissures in the rock to stimulate the release of [oil](#) and gas.

Hydrofracking has attracted increased scrutiny from lawmakers and environmentalists in part because of fears that the chemicals used during the process can contaminate underground sources of drinking water.

“Questions about the safety of hydraulic fracturing persist, which are compounded by the secrecy surrounding the chemicals used in hydraulic fracturing fluids,” said the report, which was written by Representatives [Henry A. Waxman](#) of California, [Edward J. Markey](#) of Massachusetts and [Diana DeGette](#) of Colorado.

The report, released late Saturday, also faulted companies for at times “injecting fluids containing chemicals that they themselves cannot identify.”

The inquiry over hydrofracking, which was initiated by the House [Energy and Commerce Committee](#) when Mr. Waxman led it last year, also found that 14 of the nation’s most active hydraulic fracturing companies used 866 million gallons of hydraulic fracturing products — not including water. More than 650 of these products contained chemicals that are known or possible human carcinogens, regulated under the Safe Drinking Water Act, or are listed as hazardous air pollutants, the report said.

A request for comment from the [American Petroleum Institute](#) about the report received no reply.

Matt Armstrong, an energy attorney from Bracewell & Giuliani that represents several companies involved in natural gas drilling, faulted the methodology of the congressional report released Saturday and an earlier report by the same lawmakers.

"This report uses the same sleight of hand deployed in the last report on diesel use -- it compiles overall product volumes, not the volumes of the hazardous chemicals contained within those products," he said. "This generates big numbers but provides no context for the use of these chemicals over the many thousands of frac jobs that were conducted within the timeframe of the report."

Some ingredients mixed into the hydraulic fracturing fluids were common and generally harmless, like salt and citric acid. Others were unexpected, like instant coffee and walnut hulls, the report said. Many ingredients were "extremely toxic," including benzene, a known human carcinogen, and lead.

Companies injected large amounts of other hazardous chemicals, including 11.4 million gallons of fluids containing at least one of the toxic or carcinogenic B.T.E.X. chemicals — benzene, toluene, xylene and ethylbenzene. The companies used the highest volume of fluids containing one or more carcinogens in Colorado, Oklahoma and Texas.

The report comes two and a half months after an initial report by the same three lawmakers that found that 32.2 millions of gallons of fluids containing diesel, considered an especially hazardous pollutant because it contains benzene, were injected into the ground during hydrofracking by a dozen companies from 2005 to 2009, in possible violation of the drinking water act.

A 2010 report by [Environmental Working Group](#), a research and advocacy organization, found that benzene levels in other hydrofracking ingredients were as much as 93 times higher than those found in diesel.

The use of these chemicals has been a source of concern to regulators and environmentalists who worry that some of them could find their way out of a well bore — because of above-ground spills, underground failures of well casing or migration through layers of rock — and into nearby sources of drinking water.

These contaminants also remain in the fluid that returns to the surface after a well is

hydrofracked. A recent [investigation](#) by The New York Times found high levels of contaminants, including benzene and radioactive materials, in wastewater that is being sent to treatment plants not designed to fully treat the waste before it is discharged into rivers. At one plant in Pennsylvania, [documents from the Environmental Protection Agency](#) revealed levels of benzene roughly 28 times the federal drinking water standard in wastewater as it was discharged, after treatment, into the Allegheny River in May 2008.

The [E.P.A.](#) is conducting a national study on the drinking water risks associated with hydrofracking, but assessing these risks has been made more difficult by companies' unwillingness to publicly disclose which chemicals and in what concentrations they are used, according to internal e-mails and draft notes of the study plan.

Some companies are moving toward more disclosure, and the industry will soon start a public database of these chemicals. But the Congressional report said that reporting to this database is strictly voluntary, that disclosure will not include the chemical identity of products labeled as proprietary, and that there is no way to determine if companies are accurately reporting information for all wells. In Pennsylvania, the lack of disclosure of drilling ingredients has also incited a heated debate among E.P.A. lawyers about the threat and legality of treatment plants accepting the wastewater and discharging it into rivers.