

What Chemicals Are Used in Fracking?

Companies that report their hydraulic fracturing chemicals to FracFocus have become less forthcoming since 2013, finds a study of 96,000 disclosures.

Lisa Song, Inside Climate News, 11-25-15

Since 2013, energy companies that report their hydraulic fracturing chemicals to the FracFocus website have become less forthcoming, increasingly citing the use of proprietary compounds to limit disclosure, according to a new study from the journal Energy Policy.

The paper, written by two Harvard University researchers, is the most comprehensive analysis of FracFocus to date. They examined more than 96,000 disclosure forms filed between March 2011 and April 2015, highlighting trends and offering suggestions to improve the site's accuracy and completeness.

FracFocus is the nation's largest dataset on chemicals used in hydraulic fracturing. It was launched in 2011 as a voluntary tool for oil and gas operators, and later adopted by individual states to fulfill their chemical disclosure regulations. More than 20 states currently require companies to report the fracking compounds they use, through FracFocus.

The secrecy surrounding fracking chemicals, and the proprietary mixtures used to create special fracking "products," have long been at the forefront of the debate over fracking's public health impacts.

Corresponding author Kate Konschnik, director of Harvard Law School's Environmental Policy Initiative, said she was surprised to find that operators are increasingly unwilling to disclose chemicals. Konschnik said she had expected to find a "growing comfort level" as more states moved toward adopting FracFocus as a regulatory portal.

Instead, the study found a 16.5 percent withholding rate on forms filed between 2013 and April 2015, compared to 11 percent in an Environmental Protection Agency analysis between 2011 and 2013.

Co-author Archana Dayalu, a Ph.D. candidate in Harvard University's Department of Earth and Planetary Sciences, said the study also tried to determine if FracFocus could "improve the ability to regulate a very important process in the energy economy."

For example, the data revealed that when companies reported chemicals by listing individual compounds without attributing each chemical to a fracking "product," overall withholding rates dropped by more than 75 percent. The authors suggested FracFocus could alter its disclosure forms to encourage this type of reporting.

Konschnik said she presented their results in September at the annual meeting of the two groups that manage FracFocus: the Ground Water Protection Council (GWPC), a nonprofit composed of groundwater experts; and the Interstate Oil and Gas Compact Commission, a government group led by state oil and gas regulators.

"We were not challenged on any of our findings," Konschnik said, adding that the feedback was generally positive.

Mike Nickolaus, the lead GWPC staffer for FracFocus, offered no specific comments on the study. "We continue to work on data quality improvement, which is one of the things [they're] pointing out" in their study, he said.

After reading the paper, Mary Greene, deputy director at the Environmental Integrity Project, a nonprofit that has studied FracFocus, said she was disappointed to find companies continued to withhold chemical data at such high rates.

"The public should demand 100% transparency when it comes to injecting chemicals that could impact health and future drinking water supplies," Greene wrote in an email. "Safer fracking ingredients exist and elimination of disclosure exceptions would encourage the move away from harmful chemicals toward greater public accountability. Regulators should close this loophole immediately and enforce against those who withhold such information."

A 'Huge Improvement,' With Caveats

The Energy Policy study was a follow-up to a 2013 paper by Konschnik that identified shortcomings in the website's data quality and usability.

Since then, FracFocus has undergone several rounds of updates. The latest change occurred in May, when the website made it possible to download well data in bulk. Prior to that update, users could view well disclosure reports only one at a time, as individual PDF files, making it virtually impossible to analyze trends in the data.

Konschnik said the new download capability is a "huge improvement," though it comes with caveats.

First, users can download only aggregated chemical data submitted after June 2013. Nikolaus attributes the problem to changes in data gathering procedures, though the EPA was able to "scrape," or extract, the 2011-May 2013 data with help from the GWPC.

Next, the available post-June 2013 dataset isn't completely user-friendly, Konschnik said. Anyone who downloads it needs SQL programming skills, and there are errors and inconsistencies that have to be cleaned up.

Dayalu said the data cleaning presented a "fascinating challenge." She and Konschnik included their final, refined dataset as part of their paper, along with step-by-step instructions on how users can clean the FracFocus dataset for their own analyses.

For her next study, Konschnik hopes to delve into ways that regulations and enforcement could improve FracFocus data. Many states require operators to submit a FracFocus report within 30 or 60 days after a well is fracked. The Energy Policy study found that companies often filed after the deadline—with late filing rates that were higher than 70 percent in Alabama, Louisiana and Mississippi.

In Colorado, more than a third of the reports were filed late in 2012. But in mid-2013, Colorado regulators announced they would start enforcing the deadlines in July 2013. Shortly after that announcement, delayed submissions dropped to 5 percent.

"Colorado was able to greatly change operator behavior just by announcing an intention to enforce," Konschnik said. "Obviously it's correlation, not causation, but we thought it was a pretty strong reaction to that signal."