



Disclosure of Hydraulic Fracturing Fluids: Are States Doing a Good Enough Job?

One of the most frequent assertions from the oil and gas industry regarding public disclosure of hydraulic fracturing fluids is that this responsibility is best left to the states. Independent Petroleum Association of America President and CEO Barry Russell recently stated that “States have effectively regulated the use and risks of hydraulic fracturing for decades...they are the only appropriate organizations to undertake the challenge of collecting and presenting information on the chemicals needed for the fracturing process.”¹ And the American Petroleum Institute’s CEO Jack Gerard agreed saying: “The states are the proper authority for determining requirements for chemical disclosure.”²

However, the industry has never provided any evidence that states are sufficiently assembling lists of hydraulic fracturing chemicals and making that information available to the public. Instead, industry points to states’ usage of Material Safety Data Sheets (MSDS).³ MSDSs are designed to give workers and emergency personnel information needed in the case of an accident, but lack crucial information such as the actual components of the chemicals. For example, the Halliburton website has an MSDS for “frac fluid with additives,” but does not list what the additives are nor the frac fluids themselves.⁴ And, MSDS documents are made public only if the company decides they should be.

In this survey, we looked at the well and fracturing fluids requirements in state statutes to determine whether or not they require public disclosure of hydraulic fracturing chemicals and their components. We reinforced our research with calls to staff at the relevant oil and gas commissions in each state to ensure that our data was accurate.

We found that out of the 33 states where drilling occurs, only one requires full public disclosure of the chemical components of hydraulic fracturing fluids: Wyoming. Three other states (Arkansas, Pennsylvania, and Tennessee) provided some disclosure of chemicals, but not to the public or in sufficient detail.

It is important to note that chemical disclosure is often to state agencies, rather than the public. These agencies decide whether to make the information publicly available but are sometimes constrained by state open record laws that prohibit publication of proprietary information or “trade secrets.” The Wyoming Oil and Gas Conservation Commission, for instance, has granted a handful of privacy requests to companies that have petitioned for them.

It is clear from our survey that almost all states where drilling occurs have not taken steps to ensure that the public, landowners, and emergency personnel know what is being injected underground during natural gas drilling. Because all states except Wyoming have fallen short of their responsibilities to their residents, the federal government—both the Environmental Protection Agency and the Department of the Interior—must require full public disclosure of hydraulic fracturing chemicals.

¹ “ANGA, IPAA, AXPC support state registry for disclosure of hydraulic fracturing chemicals,” Oil and Gas Journal. December 3, 2010. http://www.ogj.com/index/article_display/2232126562/articles/oil-gas-financial-journal/unconventional/anga-ipaa-axpc-support.html

² “API endorses state-based proposal from GWPC and IOGCC on hydraulic fracturing chemical disclosure.” American Petroleum Institute. December 14, 2010. <http://api.ec.api.org/Newsroom/chemical-disclosure.cfm>

³ See Fuller, Lee. “Letter to Senators Kerry, Graham, and Lieberman.” Energy in Depth. March 23, 2010. http://www.energyindepth.org/wp-content/uploads/2009/03/KGL-letter_3_231.pdf

⁴ Soraghan, Mike. “In Fracking Debate, ‘Disclosure’ Is in the Eye of the Beholder.” Greenwire. June 21, 2010. <http://www.nytimes.com/gwire/2010/06/21/21greenwire-in-fracking-debate-disclosure-is-in-the-eye-of-19087.html>

State	Well and fluid requirements, if any	Reference	Full public disclosure?
Alabama	"Monthly Report of Fluids Injected" requires "volumes of anything injected" - asks for volumes of water and gas.	Alabama State Oil and Gas Board	NO
Alaska	MSDS required to be kept on site.	Alaska Oil and Gas Conservation Commission	NO
Arizona	Operators must report amounts and types of materials used in stimulation but not chemical specifics.	Arizona Geological Survey - Oil and Gas Conservation Commission	NO
Arkansas	Shall report the types, volumes, and concentrations of the fluid, proppant, and additives, and in case of emergency the percent by volume of the chemical constituents. Trade secrets may be withheld by submitting a claim of entitlement.	Arkansas Oil and Gas Commission	NO but quite strong
California	Required to file monthly injection reports indicating the amount of fluid injected, the number of days injected, surface injection pressure, the source and kind of water, etc.	California Administrative Code	NO
Colorado	For chemicals used in quantities of more than 500 pounds: companies required to keep inventory of type of fluid, chemical analysis, and source of the fluid, and disclose to state if requested. Chemical composition fluid not required unless in the case of a medical emergency, and in that case emergency personnel must sign a non-disclosure statement.	Colorado Code of Regulations	NO
Florida	Must report a description of well type, character, and amount of material being injected; does not require chemicals to be reported.	Florida Water Resource Management/ Environmental Assessment and Restoration, Chapter 62C-29 Conservation of Oil and Gas: Injection Wells, Well Workovers, and Abandonments	NO
Illinois	"The applicant shall submit...a standard laboratory analysis of a representative sample of the fluid to be injected." No requirements for disclosure of chemicals or volumes.	Department of Natural Resources Oil and Gas Division	NO
Indiana	No chemical composition or volumes requirements.	Indiana Code 14-37	NO
Kansas	"A description of the fluid to be injected, the source of injected fluid ... [and] average daily rate of injection in barrels per day." General description of chemicals (gelled water-volume, type of proppant) required.	General Rules and Regulations for the Conservation of Crude Oil and Natural Gas, the State Corporation Commission of the State of Kansas - Oil and Gas Division	NO
Kentucky	Operator will provide the commission with a report describing the nature of fluids and formation pressure in the injection zone.	Kentucky Department of Natural Resources,	NO
Louisiana	Operating data must include ""daily injection rates and pressures"" and "a description of the injection medium to be used, its source or sources and the estimated amounts to be injected daily." No exact chemicals information is required in the application, which is available to the public online.	Louisiana Department of Natural Resources, Office of Conservation	NO
Maryland	List of drilling additives required, including toxicity.	Minerals, Oil & Gas Division, Maryland Department of the Environment	NO
Michigan	Well casing and pressure must be disclosed. Analysis of a representative sample of fluids to be injected required.	Michigan Department of Natural Resources and Environment, Office of Geological Survey	NO
Mississippi	Monthly reports showing the injection pressure and injection rate for each injection well, and identifying the underground reservoir or reservoirs into which the injection is made." Chemicals may be voluntarily reported on completion form.	Mississippi State Oil and Gas Board Rules and Regulations	NO
Missouri	Required to describe well casing and depth. Well completion forms have a space to report fluid description, companies urged to disclose.	Missouri Department of Natural Resources, Division of Geology and Land Survey, "Procedures for Permitting a Saline Water Disposal or Enhanced Oil Recovery Injection Well in Missouri	NO
Montana	Application requires "a description and analysis of the injected fluids stating the kind, source, and estimated amount to be injected daily, and the average and maximum anticipated injection pressure." Samples of typical injected fluids must be taken and analyzed for total dissolved solids (TDS), specific conductivity, pH, and percent oil and grease." Results must be submitted to the board 45 days after sample taken.	Montana Board of Oil & Gas Conservation Underground Injection Control Rules	NO
Nebraska	Injection rates, source of injected fluids, and fluid analysis required only for enhanced recovery and disposal wells.	Nebraska Oil & Gas Conservation Commission "Oil and Gas Code, Chapter 4 (Underground Injection)"	NO
Nevada	Must provide the source of the fluid injected and an analysis of its physical, chemical,	Nevada Administrative Code Chapter 445A "Water	NO

	and biological characteristics, daily rates of injection, and the volume of fluid injected.	Controls"	
New Mexico	Monthly reports on gas or fluid volumes injected, stored or produced.	Energy, Minerals and Natural Resources Department, Oil Conservation Division	NO
New York	Must provide a statement outlining the volumes of fluids injected and produced plus such other relevant data as may be required by the department.	NYS Dept of Environmental Conservation, Chapter 5: Rules and Regulations for Oil, Gas and Solution Mining	NO
North Dakota	Required to submit a description of the proposed injection program including the average and maximum daily rate of fluids to be injected and the quantity of sand, crude, chemical, or other materials employed in the operation.	North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division, Rules and Regulations	NO
Ohio	If applicable, must report the type, volume, and concentration of acid...and the type and volume of fluid used to stimulate the reservoir of the well. MSDSs required to be posted on the Department of Natural Resources website.	Ohio Revised Code - Chapter 1509 Division of Mineral Resources Management – Oil and Gas	NO
Oklahoma	For enhanced recovery only, a description of the injection medium to be used, its source, and the estimated amounts to be injected. Must analyze chloride, sodium, and total dissolved solids.	Oklahoma Corporation Commission	NO
Oregon	Application for injection shall include a description of the liquid, stating the kind, where obtained, and the estimated amounts to be injected daily.	Department of Geology and Mineral Industries, Oil and Gas Program	NO
Pennsylvania	Preparedness, Prevention, and Contingency Plans and well completion reports required to list chemicals or additives utilized, the approximate quantities of each material, and the method of storage. Must include safety and health information, cleanup procedures, toxicological data and waste chemical characteristics. Well completion reports require CAS numbers, but only for chemicals listed in MSDSs.	Bureau of Oil and Gas Management, Pennsylvania Department of Environmental Protection, Oil and Gas Operators Manual, Oil and Gas Management Practices	NO but better than most
South Dakota	Application for an injection permit shall contain the source and nature of the substances to be injected, viscosity, compatibility with the receiving formation...and the estimated average and maximum daily amounts to be injected.	Department of Environment and Natural Resources	NO
Tennessee	"Any fluid injected into or above a USDW shall meet the following standards unless specific alternate standards are established... Chemical constituents - The injected fluids shall be free from chemical constituents, other than those of natural origin, in that portion of the aquifer where the injection occurs, in concentrations specified...or combinations which would be harmful to human, animal or aquatic life or detrimental to the most sensitive and governing water use . Criteria for chemical constituents contained in guideline published by the US Environmental Protection Agency shall be considered." Applications must include a description of the proposed injection system including nature of fluid and volume to be injected.	Division of Water Pollution Control	NO but strong requirements on types of chemicals
Texas	Must list "type(s) of injection fluid" with options "salt water, brackish water, freshwater, CO2, N2, air, H2S, LPG, NORM, natural gas, polymer, other(please explain)."	Title 16, Part 1, Chapter 3 (Economic Regulation - Railroad Commission of Texas - Oil and Gas Division)	NO
Utah	Application for an injection well shall include analyses of the fluid to be injected.	Requirements for Class II Injection Wells Including Water Disposal, Storage and Enhanced Recovery Wells	NO
Virginia	For coalbed methane only, must provide a general description of the additives and muds to be used in all stages of drilling, and must explain the need to use the fluids and ensure that the fluids will not lessen groundwater quality.	Virginia Oil and Gas regulations	NO
West Virginia	Disclosure regulations "do not apply to injection of water or other liquids into a well for the purpose of fracturing or stimulating a well or underground gas storage well operations, including injection periods."	West Virginia Department of Environmental Protection - Office of Oil and Gas	NO
Wyoming	Owner, operator or service company shall provide to the Supervisor..."the chemical additives, compounds and concentrations or rates proposed to be mixed and injected" including fluid, chemical compound names, Chemical Abstracts Service numbers, and additive concentrations. Confidentiality protection for proprietary information shall be provided. The injection of volatile organic compounds into groundwater is prohibited.	Wyoming Oil and Gas Conservation Commission	YES